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No.

IN THE

Supreme Court of the United States

OCTOBER TERM, 1976

76-1677

AMERICAN TELEPHONE AND TELEGRAPH COMPANY, ET AL.,
Petitioners,

v.

FEDERAL COMMUNICATIONS COMMISSION and the UNITED STATES OF AMERICA, ET AL.,
Respondents.

PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FOURTH CIRCUIT

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PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FOURTH CIRCUIT

Petitioners, the American Telephone and Telegraph Company and its 23 associated Bell System operating companies, request that a writ of certiorari issue to review the judgment of the United States Court of Appeals for the Fourth Circuit in this case.

OPINIONS BELOW

The opinion of the Court of Appeals, which is not yet officially reported, appears at Appendix A to this petition.[1] It affirmed, by a two-to-one vote, the Federal Communications Commission's First Report and Order, which is reported at 56 F.C.C.2d 593 (1975) and appears at Appendix B; the Commission's Second Re-

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[1] The appendices are separately bound in a companion volume which is cited as "Pet. App."

port and Order, which is reported at 58 F.C.C.2d 736 (1976) and appears at Appendix C; the Commission's Memorandum Opinion and Order released February 13, 1976 which is reported at 57 F.C.C.2d 1216 and appears at Appendix D; the Commission's Memorandum Opinion and Order released March 15, 1976, which is reported at 58 F.C.C.2d 716 and appears at Appendix E; and the Commission's Memorandum Opinion and Order released April 28, 1976, which is reported at 59 F.C.C.2d 83 and appears at Appendix F.

JURISDICTION

The judgment of the Court of Appeals, which was entered on March 22, 1977, appears at Appendix G. The jurisdiction of this Court is invoked under 28 U.S.C. § 1254(1).

QUESTIONS PRESENTED

In this case the Federal Communications Commission has established a massive new federal regulatory program requiring, with limited exceptions, FCC registration of telephone sets and other terminal equipment supplied by customers in the United States. Almost all such equipment is used for intrastate and exchange service, and the FCC program will displace long standing and pervasive state regulation of such equipment as well as drastically alter the way in which telephone service has long been provided in this country. The FCC's program will also require registration and modification of telephone company supplied terminal equipment, although such equipment has been safely connected to the telephone network for over three quarters of a century without prior federal registration (or other form of prior federal approval) and the program will impose vast direct costs on the carriers. In adopt-

ing the program, the FCC expressly declined to consider the potentially enormous increases this program will cause in telephone rates paid by the public. Nevertheless, the Court of Appeals sustained the program based on its "own analysis of the potential [economic] impact of the . . . program." Pet. App. 34a-35a. The questions presented are:

1. Whether the FCC's program, in requiring federal registration of terminal equipment used for intrastate and exchange service, violates the explicit limits on the FCC's jurisdiction under the Communications Act where Congress specifically declined to grant the FCC jurisdiction which would have encompassed such equipment and instead expressly provided in Section 2(b)(1) that (apart from radio licensing) "nothing in [the] Act" shall "apply or give the Commission jurisdiction with respect to facilities . . . for or in connection with intrastate communication service"—a prohibition on FCC jurisdiction confirmed in Section 221(b) "with respect to facilities . . . for or in connection with . . . telephone exchange service . . . even though a portion of such exchange service constitutes interstate or foreign communications"?

2. Whether, even if the express terms of the Communications Act do not preclude a claim of general FCC jurisdiction over terminal equipment, inclusion of carrier equipment in the registration program reflects an unlawful assertion of FCC authority over carrier equipment where the Communications Act grants the FCC no authority to require its approval of carrier equipment before it is attached to the telephone network and where the FCC has acted without any valid, rational reasons?

3. Whether the FCC erred in expressly refusing to consider the multimillion-dollar adverse impact of the program on telephone rates paid by the public and whether the reviewing court violated the rule of *SEC* v. *Chenery Corp.*, 318 U.S. 80 (1943), by sustaining the program based on the court's own *ad hoc* economic analysis?*

STATUTES AND REGULATIONS INVOLVED

Pertinent provisions of the Communications Act appear at Appendix H. Pertinent portions of Part 68 of the FCC rules, setting forth the FCC's registration regulations, appear at Appendix I.

STATEMENT OF THE CASE

A. The Nature and Regulation of Telephone Service and the Provision of Terminal Equipment

Telephone service in this country is provided through a series of local telephone exchanges in individual cities. Within the local exchange area, service is provided by using local lines to link "terminal equipment"—telephone sets, PBXs, answering devices, etc.—ordinarily located at the customer's home or business to exchange switching facilities located at the telephone company's central office serving that exchange. Telephones or other terminal equipment are connected with one another through the central office switching facilities, which are controlled by the dial or other signals generated by the terminal equipment.[2]

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* If certiorari is granted, petitioners may also brief related questions involving the inadequacy of the registration program to protect the telephone network against harm from customer equipment and the power of the FCC to regulate manufacturers of customer supplied equipment.

[2] The local exchanges are connected with one another through a complex network of intercity lines. Ordinarily, long distance calls

Terminal equipment is mainly used for intrastate and exchange service.[3] Consonantly, the states have regulated the provision of terminal equipment virtually from the outset of regulated service in this country. *E.g., Gardner* v. *Providence Tel. Co.*, 49 A. 1004 (R.I. 1901). Tariffs filed with the states have long set forth the rates and conditions on which terminal equipment is provided by the telephone companies; likewise, state tariffs contain regulations governing the use of customer provided equipment with telephone company facilities (see pp. 8-9, below). State commissions exercise pervasive regulatory authority over such tariffs and the terms for the use of customer equipment. See, *e.g.*, Va. Code Ann. Title 56.

When Congress passed the Communications Act in 1934 and established the FCC to regulate interstate communications, it was well aware that facilities such as terminal equipment were used mainly for intrastate service (see p. 5, n. 3, above) and it included Section 2(b)(1) to preserve existing state regulatory jurisdiction over such facilities against possible federal encroachment. Congress also included Section 221(b) to preserve state jurisdiction over local exchange service and facilities even though such service and facilities may be used for interstate communications (*e.g.*,

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are routed between exchanges along these lines by toll switching facilities designed to handle interexchange (*i.e.*, intercity) traffic.

[3] At the time the Communications Act was passed, the figure was estimated at "97½ or 98% of all telephone communication" (78 Cong. Rec. 10316 (1934)). The figure has most recently been estimated at approximately 97 percent. *In re Telerent Leasing Corp.*, 45 F.C.C.2d 204, 211 (1974), *aff'd sub nom. North Carolina Utilities Comm'n* v. *FCC*, 537 F.2d 787 (4th Cir. 1976), *cert. denied*, 45 U.S.L.W. 3432 (U.S. Dec. 13, 1976).

exchange facilities in the Washington, D.C., metropolitan area).[4] Congress thus sought in the Communications Act to complement, not supersede, existing state regulatory jurisdiction. The FCC was given authority to regulate certain aspects of telecommunications—such as the rates for "interstate" calls (Sections 201-05, 47 U.S.C.§§ 201-05) and the construction or operation of new "interstate lines" (Section 214, 47 U.S.C. § 214)—which the states could not or did not effectively control. However, the language and legislative history of Section 2(b)(1) as well as of Section 221(b) confirms (see p. 17, below) that Congress expressly withheld from the FCC any jurisdiction over matters—such as terminal equipment used for intrastate and exchange service—which are subject to effective state regulation.

In the decades since the Act was passed, states have continued to regulate terminal equipment pervasively and such equipment has continued to be provided by telephone companies under tariffs filed with the state agencies. See pp. 22-23, below.[5] Equipment has not generally been provided under tariffs filed with the FCC; nor has the FCC ever sought in past years to assert

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[4] Both Sections 2(b)(1) and 221(b) preserve the FCC's power to license radio frequencies under Section 301 (47 U.S.C. § 301) to ensure that carriers, like any other users of the limited number of available radio frequencies, do not use frequencies allocated to others. See, *e.g.*, H.R. Rep. No. 910, 83d Cong., 1st Sess. 1 (1953). Section 221(b) also requires, as a condition of exemption, that state regulation exists, which it does in every state.

[5] Thus, AT&T's FCC Tariff No. 263, which offers long-distance telephone service, makes no offering of telephones or other terminal equipment; rather, it provides (para. 1.1) that the station equipment is "furnished in accordance with Telephone Exchange Service Tariffs," that is, tariffs filed with state regulatory agencies.

any general regulatory jurisdiction over terminal equipment.[6]

Historically, in offering telephone service under state regulation, the telephone companies provided and maintained all the parts of the telephone system, including the telephone sets and other terminal equipment connected to the local exchanges. By providing and maintaining all the facilities necessary for telephone service, the telephone companies sought to protect the telephone network from any harm and to assure the highest quality of service possible.[7] This policy of "end-to-end service" by regulated utilities was followed with the explicit or implicit approval of the state regulatory agencies,[8] and it comported

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[6] For decades, the FPC never claimed any general jurisdiction over terminal equipment merely because such equipment might occasionally handle interstate calls. Only in relatively rare situations involving equipment with a uniquely interstate communications function—such as certain military facilities used in the interstate military defense network—is terminal equipment tariffed with the FCC. *E.g., United States Dept. of Defense* v. *General Telephone Co.*, 38 F.C.C. 2d 803 (1973), *review denied*, FCC 73-854 (1973), *aff'd per curiam sub nom. St. Joseph Tel. & Tel. Co.* v. *FCC*, 505 F.2d 476 (D.C. Cir. 1974).

[7] As the National Academy of Sciences has reported to the FCC, uncontrolled connection of customer supplied equipment would create a variety of hazards including "voltages dangerous to human life," impaired transmission quality, and improper network control signaling that could cause malfunctions in vital switching machinery. National Academy of Sciences, *A Technical Analysis of the Common Carrier/User Interconnections Area* 2-3, 4-7 (1970).

[8] *E.g., Peters Sunset Beach, Inc.* v. *Northwestern Bell Tel. Co.*, 60 P.U.R.3d 363 (Minn. R.R. & Whse Comm'n 1964), *aff'd*, Minn. Dist. Ct. 8th Jud. Dist. Case No. 8529 (Aug. 17, 1966); *Los Angeles* v. *Southern California Tel. Co.*, 2 P.U.R. (n.s.) 247 (Cal. R.R. Comm'n 1933); *Quick Action Collection Co.* v. *New York Tel. Co.*, P.U.R. 1920D 137 (N.J. Bd. Pub. Util. Comm'rs 1920).

with the basic approach adopted in the Communications Act for interstate service, where Congress determined that regulation rather than abstract and mechanical reliance on competition would best serve the public interest in the field of telecommunications. See *FCC* v. *RCA Communications, Inc.*, 346 U.S. 86, 92-97 (1953).

B. The FCC Registration Program and Other Pertinent Proceedings

Since the 1960's, the FCC has begun to substitute a new policy of restricted competition for the regulated utility concept of telephone service. It thus took steps to promote competition in the field of interstate private lines which the FCC regulates under Sections 214 and 301 of the Act.[9] It took a further step in its *Carterfone* decision[10] invalidating interstate tariff provisions as applied to prohibit use of a non-carrier device connecting two communications systems for "interstate or foreign telephone service."

Carterfone did not purport to interfere with intrastate tariffs or the states' historic jurisdiction over terminal equipment in general, and the FCC subsequently made clear that its decision in *Carterfone* did not authorize a customer to "substitute his own equipment or facilities . . . for that furnished by the telephone company. . . ."[11] Nevertheless, the Bell System

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[9] *Allocation of Frequency in Bands Above 890 Mc*, 29 F.C.C. 825 (1960); *In re MCI*, 18 F.C.C.2d 953 (1969), *recon. denied*, 21 F.C.C.2d 190 (1970).

[10] *Carterfone*, 13 F.C.C.2d 420, 441, *recon. denied*, 14 F.C.C.2d 571 (1968).

[11] *AT&T "Foreign Attachment" Tariff Revisions*, 15 F.C.C.2d 605, 609-10 (1968), *recon. denied*, 18 F.C.C.2d 871 (1969).

and other telephone companies filed with the states new tariffs that generally permitted customer provided terminel equipment to be connected to the telephone line through "protective connecting arrangements" which safeguard telephone company employees and facilities against improper transmission of signals or excessive voltages. As a further safeguard, the new tariffs also required that the telephone companies provide the network control signaling units—the devices which generate the control signals to operate the exchange switching equipment at the telephone company's central office.[12]

In June 1972, the FCC instituted the present proceedings to create opportunities for customers to substitute their own terminal equipment for carrier supplied equipment. *Interstate and Foreign MTS and WATS,* 35 F.C.C.2d 539 (1972). The FCC proposed to eliminate the requirements that carrier connecting arrangements and network control signaling units be used where customers substituted their own terminal equipment. *Id.* In a supplemental notice, the FCC represented that the economic issues posed by its new approach would be "cover[ed] . . . by further supplemental notices in the near future" (40 F.C.C.2d 315, 318 (1973)), and it requested comment on a proposed registration program as a substitute for the carrier connecting-arrangement requirements prescribed by applicable tariffs. *Id.* at 316-17.

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[12] While connecting arrangements and network control signaling units normally are furnished pursuant to state tariffs (except for those uniquely interstate situations in which terminal equipment is tariffed on an interstate basis, see p. 7, n. 6, above), the telephone companies revised their interstate tariffs as well as their state tariffs since the FCC had ordered them in *Carterfone* to remove existing restrictions with respect to interstate communications.

While the FCC was proceeding with its proposals, state authorities were becoming increasingly concerned about the economic consequences. The National Association of Regulatory Utility Commissioners ("NARUC") undertook a study which concluded that expanded customer substitution would increase telephone rates for ordinary local residential and business telephone users by $360-740 million annually by 1980 and by almost $1 billion annually by 1984.[13] Several state regulatory authorities began to consider proposals to limit the expansion of customer substitution of intrastate and exchange facilities and services for those provided by the telephone companies. See *In re Telerent Leasing Corp., supra,* 45 F.C.C.2d at 204-05.

In response the FCC made a general declaration in the *Telerent* case that the states could not disregard FCC policy established within the ambit of FCC jurisdiction and that FCC jurisdiction extended to the regulation of terminal equipment connected to local exchanges. 45 F.C.C.2d at 221. Yet, in *Telerent,* the FCC once again promised to expend its registration case to consider the economic consequences of expanded customer substitution. *Id.* at 222-23. Shortly thereafter, the FCC established Docket No. 20003 as a separate inquiry into the economic impact of *inter alia* customer provision of terminal equipment, acknowledging that "the use of customer provided facilities in lieu of those offered by the carriers may affect the rates for services to other customers." *Customer Interconnection,* 46 F.C.C.2d 214, 215 (1974).

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[13] NARUC, *Report After Investigation* 19 (1974). NARUC is the national organization of state commissioners responsible for utility regulation in the states.

On November 7, 1975, with the economic inquiry in Docket No. 20003 uncompleted, the FCC released its First Report and Order in the registration proceeding.[14] 56 F.C.C.2d 593 (Pet. App. 1b). The First Report and Order promulgated FCC regulations establishing a sweeping new program for federal registration of all types of terminal equipment with the exception of certain categories of equipment including PBXs, key telephone systems, and main station telephones. A few months later, these last three categories of equipment were also made subject to the program by the FCC's Second Report and Order. 58 F.C.C.2d 736 (Pet. App. 1c).[15]

Under the registration program, customer supplied terminal equipment registered with the FCC may—contrary to most existing state tariffs—be directly connected to a carrier's exchange facilities without the use of either a connecting arrangement or a carrier supplied network controlling signaling unit as is presently required to protect the network and telephone company employees from harm.[16] Pet. App. 6i.

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[14] The FCC issued a First Report in Docket No. 20003, belittling the potential impact of customer substitution, only *after* the present case had been argued and submitted to the court below. Although apprised of the decision in Docket No. 20003, the majority opinion placed no reliance on it (see p. 36, n. 62, below) and—given the procedural errors and gross disregard of the evidence in Docket No. 20003—the FCC could not have permissibly rested its registration program upon that decision. See pp. 35-36, below.

[15] Two commissioners dissented from the FCC's Second Report and Order, one of whom explicitly argued that the Commission should not extend "the registration requirement to PBX equipment without first having examined the social and economic impact of this decision." Pet. App. 24c.

[16] Moreover, to facilitate the substitution of customer equipment,

Carriers must also register their *own* terminal equipment before connecting it to their *own* network (Pet. App. 15b-16b), even though they have safely utilized their own equipment for decades and even though this will require carriers to modify their equipment needlessly and expend millions of dollars for registration. See pp. 27-28, below.[17] Finally, despite its earlier promise to consider the economic impact of expanded customer substitution (see pp. 9-10, above), the FCC declined to address this issue before adopting its registration program. See Pet. App. 14b, 6c-7c; pp. 32-33, below.

C. The Decision Below

The FCC's registration orders were affirmed by the Court of Appeals for the Fourth Circuit by a two-to-one vote. Pet. App. 1a.[18] However, prior to reviewing

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carriers must generally arrange their facilities so that connection can readily be made through "standard plugs and standard telephone company-provided jacks." Pet. App. 61. Yet, even while the registration program purports to establish technical requirements that justify permitting easy, direct connection of customer equipment, thereby facilitating customer substitution, the program contains serious omissions in terms of adequate procedures and standards for quality control in the manufacture of terminal equipment and for the maintenance and repair of such equipment after installation. The National Academy of Science has independently determined that adequate procedures and standards in these areas are essential to any program which would permit the direct electrical connection of terminal equipment to the telephone network. National Academy of Science, *A Technical Analysis of the Common Carrier/User Interconnections Area* 50-51 (1979).

[17] One Commissioner dissented from the imposition of carrier equipment, pointing out that the carriers had built-in incentive to protect their own network from harm from their own equipment and thus carrier registration was merely "regulatory overkill which cannot be supported by logic or experience." Pet. App. 54b.

[18] The orders affirmed by the Court of Appeals were the FCC's

the orders, the Court of Appeals stayed the major aspects of the registration program, recognizing that the program's impact would be largely irreversible. Pet. App. 1j-12j. The court has continued that stay in effect pending petitions for certiorari.[19] Pet. App. 13j.

Prior to the decision below, another panel of the Fourth Circuit had affirmed the FCC's *Telerent* decision in *North Carolina Utilities Comm'n* v. *FCC*, 537 F.2d 787 (1976), *cert. denied*, 45 U.S.L.W. 3432 (U.S. Dec. 13, 1976) ("*North Carolina I*") and had ruled that Sections 2(b)(1) and 221(b) do not bar the FCC from claiming regulatory jurisdiction over terminal equipment connected to local exchanges. This case, however, involves not merely some abstract declaration of FCC jurisdiction but rather a major federal regulatory program displacing existing state authority. Against this background, the panel below agreed to reexamine the holding of *North Carolina I*, emphasizing that the FCC's action "implicat[ed] significant state and federal interests." Pet. App. 12a. Nevertheless, on the merits, the panel adhered to *North Carolina I* by a two-to-one vote.[20]

First and Second Reports and Orders and three supplemental orders that were released February 13, 1976, March 15, 1976, and April 28, 1976 and are set forth in Appendices D, E and F. The court's jurisdiction was invoked by petitions for review filed pursuant to 47 U.S.C. § 402(a) and 28 U.S.C. § 2342(1).

[19] The court's stay, which continues in effect, prevents the FCC from implementing its registration program for all carrier equipment and for PBXs, key systems, main stations and extension telephones; the program has been allowed to commence only for customer provided data and ancillary equipment (*e.g.*, answering devices) other than extension telephones—a phase of the program having significantly less impact. Pet. App. 1j-12j.

[20] Because of disqualifications in the Fourth Circuit, the decision in *North Carolina I* was rendered by Judge Hastie, joined by

The majority also rejected the claim that the FCC's inclusion of carrier equipment in the registration program was an irrational and unjustifiable exercise of a non-existent power. Pet. App. 25a-26a, 27a-29a. The majority could not cite any provision of the Act expressly granting the FCC authority to require prior federal approval of carrier equipment. Nor did the majority opinion address the carriers' detailed arguments that the FCC's decision to require carrier-equipment registration rested on irrational and improper reasons, even assuming the FCC did possess the requisite prior-approval power.

Finally, although the FCC explicitly refused to resolve the economic impact of expanded customer substitution, the majority opinion found that this failure to consider a pertinent public interest issue was not fatal. Unable to point to any reasoned analysis by the FCC of the registration program's economic impact on the public, the majority opinion itself sought—despite the rule clearly established by *SEC* v. *Chenery Corp.*, 318 U.S. 80 (1943)—to provide the analysis which the FCC should have performed. Pet. App. 30a-32a. Not surprisingly, the court's own *post hoc* conclusion that the registration program's economic impact will not be severe rests on untested and incorrect analysis and assertions. See pp. 35-36, below.

Judge Tuttle; Judge Widener, the only available member of the Fourth Circuit, dissented. The decision in this case was rendered by Judge Tuttle, joined by Judge Rives; Judge Widener again dissented. *En banc* consideration by the Fourth Circuit has been unavailable in both cases because of disqualifications.

REASONS FOR GRANTING THE WRIT

This case involves the validity of one of the most significant and far reaching administrative programs ever undertaken by a federal agency. With the registration program, the FCC seeks to regulate generally and pervasively over 100 million pieces of terminal equipment which have routinely been the subject of *state*—not federal—regulation for over 50 years. The FCC's extraordinary action is premised on an erroneous claim to a regulatory jurisdiction which is explicitly prohibited by the plain language of the Communications Act, is directly contrary to Congress' express intent in enacting the Act, and will have a wide-ranging and severe impact on the way in which telephone service has traditionally been provided and regulated in the United States.

An abstract assertion of such regulatory jurisdiction was considered in *North Carolina I*. It is only with this case, however, that the FCC has sought to adopt a specific regulatory program based on its jurisdictional claim over terminal equipment. Thus, this case, for the first time, brings into sharp focus the extraordinary reach of the FCC's attempted regulatory grasp (see Pet. App. 1i-39i) and the immediate displacement of state authority that has endured for decades. Moreover, since the FCC has now adopted a specific program, this case arises in the concrete context in which this Court is accustomed to considering important issues involving allocation of regulatory jurisdiction between state and federal authorities.[21]

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[21] See, *e.g.*, *Chemehuevi Tribe of Indians* v. *FPC*, 420 U.S. 395 (1975); *FTC* v. *Bunte Bros., Inc.*, 312 U.S. 349 (1941); *North Carolina* v. *United States*, 325 U.S. 507 (1945).

In short, the registration program presents a far different—and far stronger—case for certiorari than did *North Carolina I*.[22]

Furthermore, unlike *North Carolina I*, this case raises two other extremely important issues independently warranting review by this Court. First, the FCC is seeking to exercise an unprecedented and nonexistent regulatory power over carrier terminal equipment simply to attain competition for competition's sake, without regard to whether such competition is consistent with the public interest. See *FCC* v. *RCA Communications, Inc.*, 346 U.S. 86, 97 (1953). Second, the lower court's attempt to sustain the program on the basis of its "own analysis of the potential [economic] impact of the . . . program" (Pet. App. 34a-35a) violates this Court's long-standing rule that agency action can be sustained solely on the basis of "what the Commission did" and "not by what it might have done." *SEC* v. *Chenery Corp.*, 318 U.S. 80, 93-94 (1943).

I. The Decision Below Presents A Major Question of Statutory Jurisdiction Which Has Not Been But Should Be Considered By This Court.

1. The FCC's registration program is a major extension of agency jurisdiction in direct defiance of Congress' express statutory prohibition.[23] The statu-

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[22] This is emphasized by the fact that even the lower court concluded that full reconsideration of the jurisdictional issue—as starkly posed for the first time by the registration program—was warranted in this case although the issue had previously been considered by another panel of the same court in *North Carolina I*. Pet. App. 11a-12a.

[23] The issue is whether Congress by statute *prohibited* the FCC's exercise of authority and not whether Congress could have per-

tory language is the concrete expression of Congress' purpose and the hinge of any sound interpretation.[24] Here, the statutory language is unequivocal:

> "Subject to the provisions of Section 301 [regarding the licensing of radio frequencies], *nothing in this Act* shall be construed to apply or to give the Commission jurisdiction with respect to . . . charges, classifications, practices, services, *facilities,* or regulations *for or in connection with intrastate communication service* . . ." (emphasis added). Section 2(b)(1).[25]

No one denies that terminal equipment constitutes "facilities" or that the FCC's registration program asserts "jurisdiction" over and seeks to "apply" the Act to such facilities. It is equally beyond rational dispute that the vast preponderance of terminal equipment embraced by the registration program is used "for or in connection with" "intrastate" (Section 2(b)(1)) and "exchange" (Section 221(b)) services: generally, terminal equipment is connected directly to local exchanges, is provided under terms contained in state tariffs, and is used mainly for intrastate and local service. See pp. 4-5, above.

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mitted the FCC to displace state registration. Accordingly, the question presented is one of Congressional intent, not one of power.

[24] *Caminetti* v. *United States,* 242 U.S. 470, 485 (1917); *62 Cases* v. *United States,* 340 U.S. 593, 596 (1951).

[25] Similarly, Section 221(b) provides:

> "Subject to the provisions of Section 301, *nothing in this Act* shall be construed to apply, or to give the Commission jurisdiction, with respect to charges, classifications, practices, services, *facilities,* or regulations *for or in connection with . . . telephone exchange service* . . . even though a portion of such telephone exchange service constitutes interstate or foreign communications . . ." (emphasis added).

The majority opinion did not directly deny that Congress meant to prevent FCC regulation (apart from Section 301) of all facilities embraced by Sections 2(b)(1) and 221(b); but it purported to find latent in the provisions a question whether terminal equipment constitutes "'intrastate' facilities over which state jurisdiction is to be primary." Pet. App. 14a. The majority then reasoned that the equipment subject to the registration program was within the FCC's jurisdiction since such equipment may be used both for interstate and intrastate communication. According to the majority, "the withdrawal of jurisdiction over one [intrastate communications] cannot be read to mean the withdrawal as to the other [interstate communications]." Pet. App. 14a.

The lower court clearly misconstrued the statute—contrary to its plain language—when it proceeded to resolve the jurisdictional question by deciding that terminal equipment should be treated as "interstate" rather than "intrastate" facilities (Pet. App. 14a) because such equipment may be occasionally used for interstate as well as intrastate communication.[26] Under the statute's express terms, jurisdiction is allocated on the basis of whether the facilities are used "for or in connection with" intrastate or exchange service. Not even the majority below denied that terminal

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[26] Even if the statute did pose a question as to whether terminal equipment should be treated as "interstate" or "intrastate" facilities, it is inconceivable that such equipment should be deemed "interstate" rather than "intrastate" in character when it is connected directly into local exchanges as a part of the "exchange plant" (see *In re Telerent Leasing Corp., supra*, 45 F.C.C.2d at 215), is utilized almost all of the time for intrastate and exchange calls (see p. 5, n. 3, above) and has been generally provided under state tariffs for over 50 years (see pp. 22-23, below).

equipment is integrally employed for that purpose. Once it is acknowledged that terminal equipment is in fact used "for or in connection with" intrastate and exchange service, the overriding prohibition of Section 2(b)(1) as well as of Section 221(b) explicitly applies and it is then irrelevant that intermittent interstate use might *otherwise* permit FCC regulation.[27]

Consistently with this construction, the FCC itself, as recently as 1973, advised Congress that:

> "[W]e . . . lack primary jurisdiction over telephone sets which are a primary part of the facilities used in providing exchange telephone service. As you know, the Communications Act specifically *excludes* the Federal Communications Commission from any authority with respect to charges, classifications, practices, services, *facilities* or regulations for or in connection with intrastate and exchange telephone services of *any* telephone company." Letter from the FCC Chairman, 119 Cong. Rec. 30962 (1973) (emphasis added).

The present subject of the FCC's registration program includes this same "telephone set" over which the FCC disclaimed jurisdiction less than four years ago in language borrowed directly from Sections 2(b)(1) and 221(b).

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[27] This reading is confirmed by the express reservation in Section 2(b) as well as in Section 221(b) preserving the FCC's radio licensing authority under Section 301. A reservation clearly was needed to preserve this otherwise applicable power from being cut off for facilities, such as radio telephones, which use radio frequencies. This express Section 301 reservation confirms that all *other* FCC powers otherwise allegedly applicable to Section 2(b)(1) and 221(b) facilities *are* precluded by the "nothing in this Act" prohibition of these two sections. See also p. 23, n. 37, below.

The very purpose of the reservation of state jurisdiction in the Act was "to protect the State commissions against being overridden" by the FCC and to preserve for the states "exclusive" jurisdiction in the sphere expressly reserved to them by statute.[28] After protests by thirty-seven state commissioners and the state commissioners' national association,[29] early versions of draft bills proposing the Act were revised to omit language that would have facilitated federal control and to include the specific prohibitions that emerged as Sections 2(b)(1) and 221(b).[30] The legislative history of the Act thus confirms Congress' specific intent to prevent the FCC from displacing existing state jurisdiction over terminal equipment.

The lower court's failure to follow the plain language of a governing jurisdictional statute is, standing alone, ample basis for review here. The court's error is multiplied by its disregard of the FCC's own prior disclaimer of jurisdiction and of Congress' clear intent. This case is the epitome of an "important question of regulatory authority" normally considered on certiorari. *United States* v. *Southwestern Cable Co.*, 392 U.S. 157, 161 (1968).[31]

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[28] *Hearings on S. 2910 Before the Senate Comm. on Interstate Commerce*, 73d Cong., 2d Sess. 179 (1934); S. Rep. No. 781, 73d Cong., 2d Sess. 3 (1934).

[29] See *Hearings on S. 6 Before the Senate Comm. on Interstate Commerce*, 71st Cong., 1st Sess. 2167 (1930).

[30] See S. 2910, § 210, 73d Cong., 2d Sess. (1934), introduced 78 Cong. Rec. 3275 (1934); H.R. 8301, § 210, 73d Cong., 2d Sess. (1934), introduced 78 Cong. Rec. 3367 (1934).

[31] See also *FPC* v. *Conway Corp.*, 44 U.S.L.W. 4777 (U.S. June 7, 1976) (Federal Power Act); *Phillips Petroleum Co.* v. *Wisconsin*, 347 U.S. 672 (1954) (Natural Gas Act); *North Carolina* v.

2. The immediate impact and continuing implications of the FCC's registration program also argue strongly for plenary review by this Court. This program is one of the most far-reaching ever undertaken by the FCC—affecting over 1600 telephone companies, thousands of equipment suppliers, ultimately millions of customers, and over 100 million pieces of terminal equipment.[32] Even if the adverse impact on telephone rates is only a fraction of the sums predicted by NARUC (see p. 10, above), the program will result in the increase of telephone bills by millions of dollars over the next decade.

The registration program is certain to change dramatically the way in which telephone service has long been provided in this country. It will permit massive direct connection of customer equipment to the carriers' network. See p. 31 & p. 34, n. 59, below. In every realistic sense, the FCC's "plug-in" registration program will effectively destroy the policy of end-to-end telephone service (see p. 7, above)—long encouraged by regulatory authorities—which has given "the United States . . . the finest telephone system in the world."[33]

United States, 325 U.S. 507 (1945) (Interstate Commerce Act). The majority opinion relied directly on *FPC* v. *Conway*, *supra* (Pet. App. 17a-18a), but *Conway* dealt only with the question whether the FPC, in exercising its authority over matters clearly within its jurisdiction, might consider matters outside its jurisdiction. Here, by contrast, the question is whether the FCC may extend its jurisdiction over matters expressly excluded from its jurisdiction by Congress.

[32] A cursory review of the FCC's new regulations (see Pet. App. 1i-39i) confirms the magnitude of the registration program.

[33] President's Task Force on Communications Policy, *Final Report*, ch. 6, p. 5 (1968).

In addition, the registration program will effect a major upheaval in the present allocation of regulatory jurisdiction over terminal equipment, displacing authority long exercised by state regulatory agencies. The majority opinion itself conceded that "[t]he vast majority of terminal equipment has been—and is—regulated by the states . . . ." Pet. App. 23a. Since regulated telephone service began, *state* tariffs have contained the rates, conditions and regulations governing provision of almost all terminal equipment (including the ordinary home telephone), as well as the regulations governing the use of customer provided equipment. Both before and after enactment of the Communications Act, it is *state* authorities,[34] not federal authorities,[35] who have actively regulated nearly every

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[34] The following are merely a small sampling of the myriad of state regulatory decisions concerning terminal equipment: see *e.g.*, *Gardner* v. *Providence Tel. Co.*, 49 A. 1004 (R.I.), *rehearing denied*, 50 A. 1014 (1901); *In re Telephone Companies*, P.U.R. 1915A 1032, 1046 (S.D. Bd. R.R. Comm'rs 1915); *Littlepage* v. *Mosier Valley Tel. Co.*, P.U.R 1918E 425 (Ore. Pub. Serv. Comm'n 1918); *Quick Action Collection Co.* v. *New York Tel. Co.*, P.U.R. 1920D 137 (N.J. Bd. Pub. Util. Comm'rs 1920); *Re Farmers Fountain Tel. Co.*, P.U.R. 1926C 363 (Ill. Comm. Comm'n 1926); *Los Angeles* v. *Southern California Tel. Co.*, 2 P.U.R. (n.s.) 247 (Cal. R.R. Comm'n 1933); *King* v. *Pacific Tel. & Tel. Co.*, 16 P.U.R. (n.s.) 348 (Ore. Pub. Util. Comm'n 1936); *Peters Sunset Beach, Inc.*, v. *Northwestern Bell Tel. Co.*, 60 P.U.R. 3d 363 (Minn. R.R. & Whse Comm'n 1964), *aff'd* Minn. Dist. Ct. 8th Jud. Dist. Case No. 8529 (Aug. 17, 1966); *Jacobsen* v. *Northwestern Bell Tel. Co.*, 61 P.U.R. 3d 541 (S.D. Pub. Util. Comm'n 1965); *Netsky* v. *Bell Tel. Co. of Pa.*, 65 P.U.R. 3d 145 (Pa. Pub. Util. Comm'n 1966); *Racine Flash Cab Co.* v. *Wisconsin Tel. Co.*, 65 P.U.R. 3d 321 (Wis. Pub. Serv. Comm'n 1966).

[35] In a few instances involving devices with a peculiarly interstate function (such as interstate defense facilities), terminal equipment has been tariffed with the FCC, but until recently the FCC has never asserted, much less exercised, any general regula-

aspect of terminal equipment, including the connection of customer equipment.

The jurisdictional issue raised by the registration program with respect to facilities will be a recurring problem for the lower federal courts unless an authoritative construction of Section 2(b)(1) as well as of Section 221(b) is provided by this Court. The First Circuit has only recently been confronted with a question of FCC jurisdiction over certain intrastate and exchange facilities.[36] The District of Columbia Circuit has had to resolve a similar question in a decision in which it recognized the preclusive effect of the Act's reservation of state jurisdiction.[37]

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tory jurisdiction over terminal equipment. See pp. 6-7, above. In addition, the few FCC decisions claiming to regulate specific pieces of terminal equipment for quite limited purposes normally framed the claim of FCC authority—as the lower court admitted—to apply to the use of equipment for "interstate" purposes. Pet. App. 21a-23a.

[36] *Puerto Rico Telephone Company* v. *FCC*, No. 76-1134 (1st Cir. March 31, 1977). The First Circuit upheld FCC jurisdiction, relying on *North Carolina I*. However, the First Circuit opinion also acknowledges that "[r]ead literally, these provisions [Sections 2(b)(1) and 221(b)] do appear to preclude the federal jurisdiction extended elsewhere in [the Act]" (p. 7) and—so far as Section 2(b)(1) is concerned—"[t]he conflicting statutory language leaves the matter far from free of doubt" (p. 8).

[37] *Kitchen* v. *FCC*, 464 F.2d 801 (D.C.Cir. 1972). There, the court concluded that Section 221(b) barred FCC jurisdiction over an exchange building despite the assertion that some traffic switched through the facility was interstate and brought it within the FCC's authority under Section 214. Citing the statutory language and legislative history, the court determined that "even" if Section 214 otherwise applied, "an exercise of jurisdiction would still be precluded by Section 221(b)." *Id.* at 803. See also *NARUC* v. *FCC*, 533 F.2d 601, 610-11, 617 (D.C. Cir. 1976) (Section 2(b)(1)).

Nor is the impact of the jurisdictional issue limited simply to "facilities." Sections 2(b)(1) and 221(b) also apply to "services" and "rates" for and in connection with intrastate or exchange services. The logic of the jurisdictional claim will inevitably be invoked beyond "facilities," and in fact the FCC has already begun to usurp state jurisdiction over intrastate service [38] and to threaten state jurisdiction over intrastate rates.[39] The underlying jurisdictional issue should be resolved now to avoid years of bitter and continuing dispute about the reach of FCC authority under this keystone jurisdictional limitation.

In fact, review of the jurisdictional issue cannot be further delayed if it is to be truly meaningful. Apart from future extensions of the FCC's jurisdictional claim, the registration program once fully implemented will become irreversible; after millions of pieces of customer terminal equipment have been directly attached to telephone lines, no one seriously imagines that this process can or will be undone. Millions of dollars in costs for carrier equipment will be incurred in the *first year* alone. See pp. 27-28, below. The lower court's stay implicitly acknowledges that review must occur now before the massive registration program fully takes effect.

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[38] In *AT&T*, 56 F.C.C.2d 14 (1975), *pet. for review pending sub nom. California* v. *FCC*, D.C. Cir., No. 75-2060, the FCC ordered AT&T to allow a private line carrier to provide a particular type of *intrastate* service specifically barred by California, in addition to authorized interstate services.

[39] In the course of examining the separation of interstate and intrastate revenues, the FCC has just revealed that it is considering requiring revision of local telephone rates "to insure that business vertical services" are not benefited by any increases in intrastate revenues. FCC 76-1008, released Nov. 8, 1976.

II. The FCC Lacks Power To Require Carriers To Register Their Own Terminal Equipment, and Its Rationale For Carrier Registration Conflicts with this Court's RCA Decision.

1. Apart from the jurisdictional issue, certiorari is warranted to review the FCC's unprecedented claim of power to require registration of *carrier* equipment. Most terminal equipment in the United States is still provided by carriers so the registration program has its most immediate and severe impact on the carriers themselves.[40] Under the registration program the FCC would require carriers to obtain FCC approval before they attach their own terminal equipment to their own network.

The Communications Act does not confer any statutory power on the FCC to require such prior approval of carrier terminal equipment. Title II of the Act explicitly states the circumstances in which the FCC has authority to require prior approval of common carrier facilities, whether such prior approval is described as licensing, certification or "registration": under Section 214, certificates of public convenience are required where a carrier proposes to construct or operate any new interstate "line."[41] No such power was conferred with respect to carrier terminal equipment, and—since Congress clearly knew how to confer this power when it

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[40] For this reason most of the immediate multimillion dollar costs of the program stem from carrier registration (see pp. 27-28, below); by contrast, the ultimate economic impact of the program, amounting to hundreds of millions of dollars in increased rates, derives from customer substitution. See pp. 31-32, below.

[41] Similarly, under Title III, where Congress delineated the FCC's authority over radio, prior approval is required before any apparatus for transmitting radio signals is employed. See Section 301, 47 U.S.C. § 301.

wished to do so—the compelling inference is that it did not wish to do so here.

The legislative history of the Communications Act confirms this inference. In early drafts, the statute *did* include provisions requiring any subsidiary or parent of an interstate carrier to obtain FCC approval prior to furnishing "equipment" to the carrier itself. These provisions are as close as Congress came to authorizing prior FCC approval of carrier equipment. The concept was not accepted and the provisions were not enacted.[42]

Neither the FCC nor the court below has provided any firm statutory basis for requiring registration of carrier terminal equipment. Without discussion, the FCC provided only a string citation of miscellaneous statutory provisions. Pet. App. 37b.[43] Apparently even the lower court did not find most of these provisions of any help; it relied solely on Section 205 of the Act. But that section does not even mention carrier facilities or apparatus, and the court did not—and could not—

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[42] See Section 215(b) of S. 2910, 73d Cong., 2d Sess., and H.R. 8301, 73d Cong., 2d Sess., 78 Cong. Rec. 3275, 3367 (Feb. 27, 1934). Compare the present Section 215(b), 47 U.S.C. § 215(b).

[43] Sections 4(i), 4(j), 201-05, 208, 215, 218, 313-14, 403-04, 410 and 602, 47 U.S.C. §§ 154(i), 154(j), 201-05, 208, 215, 218, 313-14, 403-04, 410, and 602. Section 4(i) merely empowers the FCC to make rules implementing authority otherwise conferred. Section 4(j) authorizes the Commission to "conduct its proceedings." Sections 201-05 conspicuously omit "facilities" in any respect pertinent here. Section 208 allows anyone to complain to the Commission. Section 215 directs the Commission to examine and report to Congress. Section 218 authorizes the Commission to "inquire into the management" of carriers. Sections 313-14 deal with radio apparatus and transmissions. Sections 403-04 and 410 empower the Commission to conduct inquiries and to establish joint boards. Section 602 sets forth various repeals and amendments.

explain how the provision authorized the FCC to require prior registration of carrier terminal equipment."

The power of the FCC, like that of any administrative agency, "is circumscribed by the authority granted" by Congress. *Stark* v. *Wickard,* 321 U.S. 288, 309 (1944). When the agency summons vast new powers out of thin air, it is the court's obligation to restrain it.[45] In the present case, review by this Court is required because, just as the FCC has forgotten that non-existent powers "cannot be merely assumed," so the majority opinion has ignored the warning that neither can such powers be "created by the courts in the proper exercise of their judicial functions." *FTC* v. *Raladam Co.,* 283 U.S. 643, 649 (1931).[46]

2. The immediate direct costs of carrier registration are a further exigent reason why review is warranted. Carrier registration will cost the Bell System itself over $88 million in the *first year* alone,[47] quite

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[44] The fact that the FCC has never before claimed such a power under Section 205, or under any other provision, is further potent evidence that the power is imaginary. See *FPC* v. *Panhandle Eastern Pipe Line Co.,* 337 U.S. 498, 513 (1949).

[45] The FCC, in its zeal to advance its new policy of restricted competition, has repeatedly exceeded or misapplied its powers. See *AT&T* v. *FCC,* 487 F.2d 865 (2d Cir. 1973); *Hawaiian Telephone Co.* v. *FCC,* 498 F.2d 771 (D.C. Cir. 1974); *GTE Service Corp.* v. *FCC,* 474 F.2d 724 (2d Cir. 1973).

[46] Because the prior permission power is not merely absent but negated by statutory language and legislative history, the decisions cited by the majority opinion involving implied power (Pet. App. 25a n.20) are inapposite. Rather, this case resembles *AT&T* v. *FCC, supra,* where the court found that a prior permission power to bar rate changes could not be implied.

[47] Affidavit of Joe H. Hunt, para. 6, filed with the Court of Appeals, April 8, 1977. The cost estimate has changed several times

apart from the costs inflicted on 1600 other telephone companies and continuing costs after the first year. This Court has traditionally given weight to the practical impact of cases being considered for review; and the impact of $88 million in first year costs, much of which will ultimately be borne by the public through increased rates, cannot be ignored when the statutory basis for inflicting the loss is non-existent.

3. Even if the FCC had power to require prior registration of carrier equipment, its basic reason for exercising that power in this case conflicts in principle with this Court's decision in *FCC* v. *RCA Communications, Inc.*, 346 U.S. 86 (1953) and that of the District of Columbia Circuit in *Hawaiian Telephone Co.* v. *FCC*, 498 F.2d 771 (1974). Such a conflict is a settled ground for certiorari. Sup. Ct. R. 19(1).

The registration program was designed to facilitate substitution of customer supplied equipment by allowing registered customer sets to be used without connecting arrangements or carrier network control signaling units. See p. 11 & n. 16, above. The FCC's reason for also requiring registration of carrier equipment was simply to "equalize" competitive positions of carriers and non-carriers as equipment suppliers and thereby—as the dissenting judge below observed—"[promote] . . . competition in the terminal equipment market" (Pet. App. 43a). The FCC expressly stated

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simply because the FCC keeps modifying its registration program (see *id.* at para. 5), but all of the estimates involve multimillion dollar costs. Nowhere has the FCC ever provided any analysis to refute these detailed computations (see Pet. App. 15b-16b) despite its generalized and incorrect claims that the expense will be minimal. See, *e.g.*, Pet. App. 4d.

that "when one participant in a competitive market is subject to regulatory constraints (*e.g.*, registration of equipment) while another is not, there exists the possibility of using . . . [registration procedures] for competitive advantage." Pet. App. 15b-16b.

Apart from the fact that this rationale for carrier registration is patently illogical,[48] it defies the basic principal of carrier regulation under the Communications Act: the touchstone of FCC action must be the *public interest* and not mere enhancement of competition. *FCC* v. *RCA Communications, Inc., supra,* 346 U.S. at 97. Here, the FCC has sacrificed the public interest by imposing a minimum of $88 million in first year costs merely to pursue abstract goals of competitive equality. As the District of Columbia Circuit said in striking down another FCC order:

> "[I]t is all too embarrassingly apparent that the Commission has been thinking about competition, not in terms primarily as to its benefits to the public but specifically with the objective of equalizing competition among *competitors.*" *Hawaiian Telephone Co.* v. *FCC,* 498 F.2d 771, 775-76 (1974) (emphasis in original).

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[48] Carrier registration would not lessen the delay in customer registration but expand it by adding more, unnecessary applications to clog the bureaucratic gristmill. Moreover, as a dissenting Commissioner observed: The FCC has ample means "short of meaningless [carrier] registration" to preclude "possible anticompetitive practices," which are not in any case established by the record. Pet. App. 54b-55b. And, in any event, carrier registration cannot in fact equalize competitive opportunities: customer suppliers have enormous advantages of their own, including the opportunity to change prices at will without filing tariffs; yet, the FCC has not equalized treatment in this respect or in many others.

This conflict in applying a central principle of the Act warrants certiorari. The remaining explanations given by the FCC for requiring carrier registration are so plainly fabricated that they lend no support to the requirement whatever.[49] In fact, so far as they are considered at all, their makeweight character underscores the FCC's main object to "equalize" competition and their irrationality further condemns its requirement of carrier registration.

III. The Court Below Plainly Violated the Chenery Doctrine in Substituting its Own Economic Conjectures for Findings the FCC Erroneously Failed To Make.

The basic rules for judicial review of administrative action are that an agency must consider all perti-

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[49] The FCC asserted that carrier equipment has the same "potential" for harm as customer equipment (Pet. App. 15b); but it also admitted that the carriers themselves have both the incentive and "ability" to protect their own network from being harmed by their own terminal equipment (Pet. App. 15b), and it made a mockery of any claim of potential harm by "grandfathering" 100 million carrier supplied telephones already in place. Pet. App. 2f-6f. What is more, provision of terminal equipment by carriers is carefully supervised by the states. And while a report by the National Academy of Science has concluded that a properly enforced certification program for *customer* provided equipment would be appropriate, the Academy's report nowhere suggests any need for such a program with regard to carrier equipment. National Academy of Science, *A Technical Analysis of the Common Carrier/User Interconnections Area* 8-14, 48-56 (1970).

The FCC also alleged that information it obtains from carrier registration may be useful to it in customer registration. Pet. App. 15b. However, the FCC does not deny that it can obtain the same information from carriers directly under Section 218 of the Act; thus, this rationale cannot explain why carrier equipment must be subject to the prior approval requirement of registration or must be technically modified under the program when it has worked safely for years.

nent factors and consequences of its action, *Permian Basin Area Rate Cases*, 390 U.S. 747 (1968), and that a reviewing court may sustain the agency only on the basis of the agency's own proper resolution of such issues. *SEC* v. *Chenery Corp., supra.* In this case, violation of these precepts is so patent that summary reversal would be justified if plenary review on other issues were not granted.

In eliminating connecting arrangements and network control signaling units designed to protect the network and telephone company employees from harm, the registration program creates an "open door" to customer substitution of terminal equipment.[50] Increased replacement of carrier supplied equipment threatens to cause substantial increases in the rates paid by the public for ordinary telephone service. Because certain carrier supplied terminal equipment, such as complex business PBXs and key telephone systems, is priced to provide revenues in excess of costs, this contribution offsets common overhead for the telephone system and helps to hold rates for basic residential telephone service below the levels that would otherwise be necessary to produce the required overall return.[51]

Studies submitted to the FCC showed that the aggregate impact of increased customer substitution will

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[50] The program requires carriers to permit *direct* connection of customer supplied equipment, prohibits carriers from requiring carrier connecting arrangements or network control signaling units, and requires (with narrow exceptions) that new line terminations and registered equipment be equipped with standard plugs and jacks for "plug in" installation. Pet App. 6i.

[51] See Response of the Bell System Companies, Third Supplemental Response of the Bell System Companies, and Bell Exhibits 1, 1A, 1B, 18 and 18A, in FCC Docket No. 20003.

be enormous. An investigation by the state commissioners' organization—not the telephone companies—forecasts increased intrastate and exchange rates representing $360-740 million *annually* by 1970 and $900 million to $1 billion *annually* by 1984.[52] Lengthy analyses made by the Bell System, Continental, and other telephone companies consistently revealed that increased rates would flow from customer substitution.[53] This burden threatens to fall with special force on low-income customers.

Initially, the FCC promised to consider in this case the economic impact of increased customer replacement of carrier terminal equipment (see pp. 9-10, above); deed, its Chairman wrote to the state commissioners that "an in-depth study" of the "economic impact of liberalized interconnection" was a question "*integral* to a fair resolution" of the present docket.[54] The FCC then reversed course and established its new program *without* considering this basic economic issue. In fact,

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[52] NARUC, *Report After Investigation* 18-19 (1974). The NARUC study concluded that:

> "[T]he effect of interconnection is likely to be equally as significant, if not more significant, for the independent industry as for the Bell System, and further, that interconnection may significantly impair the availability of service at reasonable prices in the less developed or rural areas of the country." *Id.* at 50.

[53] Comments of GTE Service Corp., April 21, 1975, App. I-A, p. 10, in Docket No. 20003; Bell System Ex. 45, p. 31, in Docket No. 20003; *Economic Impact of Competition on Telephone Operations in the Continental Telephone System*, p. 6, submitted by Continental Telephone Corporation in Docket No. 20003.

[54] Letter from Dean Burch, FCC Chairman, to Ben Wiggins, Chairman, NARUC Committee on Communications, Aug. 4, 1972 (emphasis added).

it expressly declared that its decisions promulgating and implementing the registration program are concerned "only" (Pet. App. 14b) and "solely" (Pet. App. 7c) with the mechanics of the program and not its economic impact. As Judge Widener observed in a dissent below, this case involves nothing less than a "stout refusal [by the FCC] to conduct a reasoned inquiry into the economic implications" of its actions. Pet. App. 36a.[55]

Clearly the FCC was obligated to consider the economic impact of its registration program before adopting a major new federal program that, once fully implemented, will be largely irreversible. The Communications Act makes service "at reasonable charges" a specific goal (Section 1, 47 U.S.C. § 151) and decisions under the Act and under allied statutes make plain that it is reversible error for a regulatory agency to refuse to consider a significant adverse economic impact on the public.[56] The majority opinion admitted

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[55] The majority opinion attempts in fact to convey the impression that the FCC actually did give some consideration to economic impact and thus asserts that "[w]hat the FCC has done is make reasonable assumptions about economic impact based on the evidence currently available." Pet. App. 35a. The majority opinion nowhere indicates what evidence formed the basis for the supposed FCC "assumptions"; nor does it cite any portion of the FCC's orders where the asserted assumptions were made. The fact is that the FCC did not make any such assumptions, much less pursue the requisite analysis of economic impact. Rather, the FCC explicitly refused to consider the economic issues, clearly stating that it considered such issues "not [to] fall within the scope of [the registration] proceedings." Pet. App. 7c.

[56] *E.g., Atlantic Refining Co.* v. *Public Service Comm'n*, 360 U.S. 378 (1959); *FPC* v. *Hunt*, 376 U.S. 515 (1964); *Carter Mountain Transmission Corp.* v. *FCC*, 321 F.2d 359 (D.C. Cir.), *cert. denied*, 375 U.S. 951 (1963).

that it would be "remiss" if it permitted a registration program having major effects on telephone rates to be implemented "without even considering that potential economic impact." Pet. App. 33a.

However, since the FCC had conspicuously failed to analyze the economic impact, the majority opinion was forced to supply this deficiency itself. To fill this gap, the court sought to provide its *own* conjectures and assumptions in its *own* attempt to show that the economic impact of the registration program would be slight. Pet. App. 30a-32a. Not surprisingly, its attempt—unsupported by facts and untested by administrative proceedings—is riddled by unproved premises,[57], faulty logic[58] and even disregard of the program's full consequences.[59]

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[57] For example, to construct its analysis the lower court was forced to brush aside the significant direct costs of registration and engage in guesswork about the costs of connecting arrangements and network control signaling units, the costs for non-carrier suppliers in registering their equipment, and possible future price changes by such suppliers. Pet. App. 28a-29a, 30a-32a.

[58] In an astonishing leap of imagination, the court asserted that past substitution of customer equipment had not been shown to diminish carrier terminal equipment "sales." Pet. App. 32a. Not only have such replacements *necessarily* diminished carrier revenues but there is no basis for reasoning that past experience in any way measures the economic consequences of the FCC's new registration program providing for "plug in" substitution of customer supplied equipment. See pp. 31-32, above.

[59] Without support, the lower court made the incredible assertion that "the *registration program* can hardly be expected to cause a significant 'substitution effect'" Pet. App. 32a (emphasis in original). This is simply untenable, for—as the dissenting judge below emphasized—the registration program for the first time accords each "telephone subscriber . . . a right of virtually unrestricted interconnection of his own equipment." Pet. App. 39a.

Regardless of the merits or demerits of the majority opinion's reasoning and assumptions, they are an impermissible surrogate for agency findings made in this case and themselves subject to judicial review. At least since this Court's decision in *SEC* v. *Chenery Corp., supra,* 318 U.S. at 93-94, it has been settled that administrative "action must be measured by what the [agency] did, not by what it might have done." The registration program must "be upheld, if at all, on the same basis articulated in the order[s]" of the Commission. *Burlington Truck Lines* v. *United States,* 371 U.S. 156, 169 (1962). Since the grounds set forth in those orders were "inadequate," the court below was "powerless to affirm the administrative action." *SEC* v. *Chenery Corp.,* 332 U.S. 194, 196 (1947). Nevertheless, the court proceeded to affirm the FCC's orders on the basis of its own analysis which is filled with the very sort of errors that the *Chenery* doctrine was intended to prevent.

Realizing the error it had committed, the FCC itself, *after* briefing and argument in this case, rushed out an initial report in Docket No. 20003 and transmitted it to the court below.[60] Predictably, the initial report sought to belittle claims of economic impact from customer substitution. But even this report, manifestly shaped as a litigation document, admits that any loss of terminal equipment "can" produce "a net reduction in local operating company revenues" (para. 27); that any impact "would probably be felt most severely by small independent telephone companies" (para. 28); that revenue shifts "might possibly" result where "small independent telephone companies might be

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[60] First Report in Docket No. 20003, released September 27, 1976, and sent to the court by the FCC on October 22, 1976.

most seriously affected" (para. 31); and that there is "the possibility" of an adverse impact on the smaller companies. Para. 260.[61]

The report cannot provide any support for the FCC's refusal to consider the economic impact of its registration program. It was hurriedly produced, after the court below stayed the registration program, without any opportunity for parties to the proceeding to comment on the validity or correctness of the studies relied upon; no proposed findings were ever prepared; and no briefing or argument to the Commission has ever occurred. Most important, the report—carefully framed *not* to include an order—has never been subject to judicial review and its unreviewed findings cannot be smuggled into this case through the back door.[62]

The FCC's error in refusing to consider the ultimate economic impact of its registration program is both manifest and virtually self confessed; it alone would warrant certiorari. In addition, the lower court's affirmance of the FCC's error, based on the court's own substituted analysis, has frustrated the proper allocation of responsibility between court and agency. Such a departure from established practice by a reviewing court "raises questions of high importance" requiring action by this Court to ensure that the bounds of judi-

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[61] As a dissenting commissioner correctly summarized the matter: "[T]he majority herein recognizes *for the first time* that the fears voiced by the independent telephone companies of serious financial harm and those voiced by the state regulators of the likely necessity for increased residential rates could have a valid basis *if* the Commission's recent policies are completely successful." (Emphasis in original.)

[62] Even the lower court expressly disclaimed any reliance on the report in Docket No. 20003. Pet. App. 10a n.6.

cial review remain both understood and respected. *Cf. NLRB* v. *Waterman S.S. Co.*, 309 U.S. 206, 209 (1940).

Indeed, this Court has previously concluded that where a court has strayed as clearly as has the court below from established principles governing judicial review of administrative action, summary reversal of the lower court's decision is appropriate. See *Northern Indiana Public Service Co.* v. *Isaak Walton League*, 423 U.S. 12 (1975). Consistently with this view, we submit that even if this Court should conclude that the other issues raised by this petition do not warrant review on certiorari, the Court should at the very least grant certiorari and summarily reverse the majority's decision insofar as it sustains the registration program through its own independent analysis of the program's economic consequences.

CONCLUSION

The Court should grant certiorari and the case should be set for plenary review of the issues posed by (1) the FCC's attempt to promulgate its registration program in clear violation of the limits expressly fixed on its jurisdiction by Section 2(b)(1) as well as of Section 221(b) of the Communications Act, (2) the FCC's unlawful inclusion of carrier equipment in the program and (3) the lower court's clear failure to adhere to the limits on judicial review of administrative action fixed by this Court's decision in *SEC* v. *Chenery Corp., supra*. Alternatively, the decision below should be summarily reversed on the third issue to ensure that the established limits on judicial review remain clear and unimpaired.

Respectfully submitted,

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May 1977

Supreme Court, U. S.
FILED
MAY 27 1977
MICHAEL RODAK, JR., CLERK

No.

IN THE

Supreme Court of the United States

OCTOBER TERM, 1976

—— 76-1677

AMERICAN TELEPHONE AND TELEGRAPH COMPANY, ET AL.,
Petitioners,

v.

FEDERAL COMMUNICATIONS COMMISSION and the UNITED STATES OF AMERICA, ET AL.,
Respondents.

APPENDIX TO PETITION FOR A WRIT OF CERTIORARI

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May 1977

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UNITED STATES COURT OF APPEALS
FOR THE FOURTH CIRCUIT

No. 76-1002 (Consolidated with Nos. 76-1152, 76-1292, 76-1415, 76-1443, 76-1467, and 76-1502)

NORTH CAROLINA UTILITIES COMMISSION, ET AL.,
Petitioners,

v.

FEDERAL COMMUNICATIONS COMMISSION and
UNITED STATES OF AMERICA,
Respondents,

COMPUTER AND BUSINESS EQUIPMENT
MANUFACTURERS ASSOCIATION, ET AL.,
Intervenors.

APPEALED FROM THE
FEDERAL COMMUNICATIONS COMMISSION

Argued: September 21, 1976 Decided: March 22, 1977.

Before RIVES,* TUTTLE,* and WIDENER, Circuit Judges.

TUTTLE, Circuit Judge:

Edward B. Hipp for State of North Carolina Utilities Commission; Carl E. Sanders (John L. Taylor, Jr. on brief) for Southeastern Association of Regulatory Utilities Commission; William L. Leonard (F. Mark Garlinghouse and Alfred C. Partoll on brief) for Bell System Companies; Thomas J. O'Reilly (Lloyd D. Young on brief) for United States Independent Telephone Association; (William J. Brown, Charles S. Rawlings and Cheryl Hachman on brief for Public Utilities Commission of

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* Honorable Richard T. Rives, *Honorable Elbert P. Tuttle, Senior United States Circuit Judges, Fifth Circuit, sitting by designation.

Ohio; Michael Boudin and Stuart C. Stock on brief; Marshall Cox on brief for Continental Telephone Corporation; Richard R. Zaragoza and Clifford M. Harrington on brief for Rixon, Inc.; Michael T. Tomaino on brief for Rochester Telephone Corporation; John M. Lothschuetz and Carolyn C. Hill on brief; Warren E. Baker and Richard J. Croker on brief for United System Service, Inc. and the United Telephone System operating companies); Daniel M. Armstrong, Associate General Counsel, Federal Communications Commission (Werner K. Hartenberger, Acting General Counsel, Sheldon M. Guttmann and Jack D. Smith, Counsel, Federal Communications Commission on brief); Joseph M. Kittner (Edward P. Taptich and Virginia S. Carson, McKenna, Wilkinson & Kittner on brief) for Computer and Business Equipment Manufacturers Association; Edwin B. Spievack (Joel H. Levy, Cohn & Marks on brief) for North American Telephone Association); Stephen R. Bell (Herbert E. Marks, Wilkinson, Cragun & Barker on brief) for Independent Data Communications Manufacturers Association, Inc.; (Donald I. Baker, Acting Assistant Attorney General, Robert B. Nicholson and James Ponsoldt, Attorneys Department of Justice on brief; Charles R. Cutler, John L. Bartlett, John B. Wyss, Kirkland, Ellis & Rowe on brief for Aeronautical Radio, Inc.; John S. Voorhees, Howrey & Simon on brief; Robert E. McKee on brief for International Telephone and Telegraph Corporation; Grant S. Lewis, Jay G. Safer, LeBoeuf, Lamb, Leiby & MacRae on brief; Jay E. Ricks, Robert R. Bruce, Hogan & Hartson on brief for Phone-Mate, Inc.; Irving K. Kaler, Lawrence J. Movshin, Kaler, Karesh and Frankel on brief for Rollins Protective Services Company; Joseph E. Keller, Wayne V. Black, Larry S. Solomon, Keller & Heckman on brief for Central Committee on Telecommunications of the American Petroleum Institute; William H. Borghesani, Jr., Keller & Heckman on brief for Dasa Corporation; J. Roger Wollenberg, David R. Anderson, Neil J. King, Michael S. Schooler, Wilmer, Cutler & Pickering on brief for Inter-

national Business Machines Corporation; J. Gordon Walter on brief for International Business Machines Corporation; Rich M. Stein, Sigelman & Stein on brief for Phonetele, Inc.; Charles M. Meehan, Carole C. Harris, Keller & Heckman on brief for Utilities Telecommunications Council); (Paul L. Douglas, Attorney General, C. C. Sheldon, Assistant Attorney General on brief) for Amicus Curiae State of Nebraska *ex rel.* Nebraska Public Service Commission.

This is a case of second impression. In *North Carolina Utilities Commission v. FCC*, 537 F.2d 787 (4th Cir. 1976), *petition for cert. denied*, 45 U.S.L.W. 3257 (Nos. 76-331, 76-332, 76-336, U.S. Oct. 5, 1976), this Court upheld a declaratory ruling of the Federal Communications Commission that the Communications Act of 1934 preempts state regulation of telephone terminal equipment used for both interstate and local communication when such regulation conflicts with federal rules governing the same equipment. This appeal concerns the validity of the FCC's attempt to exercise that primary authority.

I. The Terminal Equipment Registration Program

The phrase "terminal equipment" refers to devices utilized for transmission or reception of communications when attached to the national telecommunication line network. Items of terminal equipment include common residential telephones (both main station and extension phones), key telephones, answering devices, dialers, computer terminals and private branch exchange (PBX's). Although most telephone customers rent or purchase terminal equipment directly from telephone companies, the carriers themselves purchase a substantial portion of their terminal equipment from independent manufacturers as well as carrier-controlled subsidiaries.

In Docket 19528, the present case, the Federal Communications Commission (FCC) has by rule established a registration program for all terminal equipment attached

to the interstate telephone line network. Attachment of terminal equipment is currently restricted by telephone company tariffs which allow customer connection of non-carrier-supplied terminal equipment to the telephone lines only if the customer effects connection through a carrier-supplied connecting arrangement (CA) and employs a carrier-supplied network control signaling unit (NCSU). The proposed FCC program would permit customers to attach any registered terminal equipment to the network without being forced to use the carrier-supplied intermediary devices.

To be registered with the FCC, equipment must meet technical specifications that ensure proper performance and safety without the intermediary CAs and NCSU's. Nonregistered equipment can still be attached provided the intermediary devices are employed. All terminal equipment, including that provided by carriers directly to customers, must be registered (or attached using CAs and NCSUs). Individual items of terminal equipment, however, need not be registered; instead, manufacturers will be required to register types or models of equipment.

II. The Conditions of Contest

A. The Statutory Scheme.—The Communications Act of 1934, 47 U.S.C.A. §§ 151-609 (1962 & Supp. 1976), created the Federal Communications Commission for "the purpose of regulating interstate and foreign commerce in communications by wire and radio so as to make available . . . a rapid, efficient, Nationwide, and world-wide wire and radio communication service with adequate facilities at reasonable charges," Communications Act § 1, 47 U.S.C.A. § 151. Section 2(a) of the Act, 47 U.S.C.A. § 152(a), provides that the Act and the FCC's jurisdiction "shall apply to all interstate and foreign communications by wire." This general grant of authority to the FCC is amplified by section 3(a), 47 U.S.C.A. § 153(a), to encompass "the transmission of writing, signs, signals, pictures, and

sounds of all kinds by aid of wire . . . *including all instrumentalities, facilities, apparatus, and services incidental to such transmission.*" (Emphasis added.)

The Commission's major substantive powers over common carriers are described by sections 201-205 of the Act, 47 U.S.C.A. §§ 201-205. Section 201(b) requires that all "charges, practices, classifications, and regulations for and in connection with [interstate] communication service, shall be just and reasonable." Section 202(a) declares it to be "unlawful for any common carrier to make any unjust or unreasonable discrimination in charges, practices, classifications, regulations, facilities, or services" of interstate communication. Section 203 and 204 mandate procedures for tariff filings by carriers and for FCC review of proposed tariffs. Although the FCC may simply disapprove a proposed tariff provision and require refiling by a carrier, section 205 also gives the FCC power to "prescribe what will be the just and reasonable charge . . . and what classification, regulation, or practice is or will be just, fair, and reasonable, to be thereafter followed" by the carrier.

The Communications Act also reserves some regulatory jurisdiction to the states. Section 2(b)(1) of the Act, 47 U.S.C.A. § 152(b)(1), provides that "nothing" in the Act shall be construed to give the Commission jurisdiction "with respect to . . . charges, classifications, *practices*, services, *facilities or regulation for or in connection with intrastate communication service.*" (Emphasis added.) Section 221(b) of the Act, 47 U.S.C.A. § 221(b), carves out a second area of state regulatory hegemony by denying the Commission jurisdiction with respect to "charges, classifications, practices, services, facilities or regulations for or in connection with . . . telephone exchange service" where "such matters are subject to regulation by a State commission or by local governmental authority" even though "a portion of such exchange service constitutes interstate or foreign communication."

The tension between the powers granted to the FCC by sections 2(a) and 3(a), and the powers reserved to the states by sections 2(b)(1) and 221(b), generates this particular appeal. The validity of the Commission's registration program, however, cannot be properly determined without reference to the development of the Commission's interconnection policy.

B. The Interconnection Policy and North Carolina I.— Prior to 1969, AT&T tariffs filed with the Commission prohibited attachment of *any* non-carrier-supplied terminal equipment to the telephone line network.[1] Earlier in 1966, manufacturers of the Carterphone device, which enabled a radio transmitter to interconnect with the telephone network, had attacked the tariff as an antitrust violation, but the courts held that the FCC had primary jurisdiction to determine the lawfulness of the inclusion of the blanket prohibition in an FCC-approved tariff. *Carter* v. *AT&T Co.*, 250 F.Supp. 188, 190 (N.D. Tex.), *aff'd* 365 F.2d 486 (5th Cir. 1966), *cert. denied* 385 U.S. 1008 (1967). The FCC then found that the absolute prohibition of customer interconnection was unreasonable and unjustly discriminatory in violation of sections 201 and 202 of the Act. *Carterphone v. AT&T*, 13 F.C.C.2d 420 (1968), *reconsideration denied*, 14 F.C.C.2d 571.[2] The Commission did not, how-

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[1] Paragraph 2.6.1 of tariff FCC No. 263 provided: "No equipment, apparatus, circuit or device not furnished by the telephone company shall be attached to or connected with the facilities furnished by the telephone company, whether physically, by induction or otherwise. . . ." *See* Carterphone v. AT&T, 13 F.C.C. 2d 420, 427 & nn.6-7 (1968).

[2] The Commission held that: "[T]he tariff is unreasonable in that it prohibits the use of interconnecting devices which do not adversely affect the telephone system. . . . [O]ur own conclusion here is that a customer desiring to use an interconnecting device to improve the utility to him of both the telephone system and a private radio system should be able to do so, so long as the interconnection does not adversely affect the telephone company's operations or the telephone

ever, affirmatively prescribe any specific interconnection policy for the carriers, as it might have done pursuant to section 205. Rather, it declared the AT&T tariff to be invalid, and permitted the carriers to refile. 13 F.C.C.2d at 425.[3] The carriers responded by filing tariffs that contained the current CA and NCSU requirements. The Commission did not object to the refiled tariffs, and permitted them to become effective without scheduling a formal investigation, *see AT&T "Foreign Attachment" Tariff Revisions*, 15 F.C.C.2d 605 (1968), 18 F.C.C.2d 871 (1969), although the FCC still retained authority to investigate the lawfulness of the tariffs in the future, *see* 47 U.S.C.A. at 403.[4]

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system's utility for others. A tariff which prevents this is unreasonable; it is also unduly discriminatory when, as here, the telephone company's own interconnecting equipment is approved for use. The vice of this present tariff . . . is that it prohibits the use of harmless as well as harmful devices." 13 F.C.C.2d at 523-24.

[3] The Commission clearly held, however, that its Carterphone decision established an interconnection policy embracing other types of terminal equipment: "In view of the unlawfulness of the tariff there would be no point in merely declaring it invalid as applied to the Carterphone and permitting it to continue in operation as to other interconnection devices. This would also put a clearly improper burden upon the manufacturers and users of other devices. The appropriate remedy is to strike the tariff and permit the carriers, if they so desire, to propose new tariff provisions in accordance with this opinion." 13 F.C.C.2d at 425.

[4] Section 403 of the Communications Act, 47 U.S.C.A. § 403, gives the FCC "full authority and power at any time to institute an inquiry, on its own motion, in any case and as to any matter . . . concerning which complaint is authorized to be made, to or before the Commission by any provision of this chapter. . . ." Section 208, 47 U.S.C.A. § 208, provides that any "person, any body politic or municipal organization, or State commission" may complain to or file a complaint with the Commission relating to "anything done or omitted to be done by any common carrier subject to this chapter, in

Despite this federal tariff permitting interconnection of terminal equipment (as long as CAs and NCSUs were used), several state regulatory commissions in the early 1970's planned to forbid interconnection of non-carrier-supplied terminal equipment with local exchanges, except where such equipment was used exclusively for interstate communication. Because separation of terminal equipment used exclusively for local communication is a practical and economic impossibility, the proposed state rules would have scuttled the federal interconnection policy. Acting on the petition of independent equipment manufacturers, the FCC ruled that state commissions were precluded from regulating or restricting interconnection in any fashion that conflicted with FCC regulations governing the same equipment. *In the Matter of Telerent Leasing Corp.*, 46 F.C.C. 2d 204 (1974).

On appeal to this Court, the FCC's action was affirmed. *North Carolina Utilities Commission v. FCC*, 537 F.2d 787 (4th Cir. 1976) *(North Carolina I), petition for cert. denied*, 45 U.S.L.W. 3257 (Nos. 76-331, 76-332, 76-336, U.S. Oct. 5, 1976). The Court first noted the impossibility of separating interstate terminal equipment from local terminal equipment: the same telephones are used for both interstate and local communications. Thus, if state commissions could lawfully prohibit interconnection unless terminal equipment is used exclusively for interstate communications, federal tariffs authorizing interconnection would be made nugatory. Conversely, if federal regulations permitting interconnection are primary, it becomes a practical impossibility for the states to prohibit interconnection with respect to purely intrastate communication. Something definitely had to give.

This Court held that FCC authority to regulate inter-

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contravention of the provisions thereof. . . ." *Cf.* ICC v. Inland Waterways Corp., 319 U.S. 671 (1943) (no bar to finding of unlawfulness that tariff has been permitted to remain in effect).

connection of equipment used for both interstate and local communication was paramount. Considerations of congressional purpose, of statutory provision for parallel situations, and of established agency practice informed the Court's decision. First, the Court pointed out that the Communications Act's primary purpose of establishing an efficient interstate communications network "with adequate facilities at reasonable charges," *see* 47 U.S.C.A. § 151, would be jeopardized if federal regulation of jointly used equipment could be countermanded by state rules. Second, the Court found that other provisions of the Communications Act establish federal primacy where the control of facilities used for both interstate and local communication is concerned. Sections 2(b)(2) through 2(b)(4), for example, make intrastate carriers subject to FCC regulation when they provide interstate service by hooking up with the lines of interstate carriers, *see* 47 U.S.C.A. § 152(b)(2)—(4); and section 419 (e) establishes federal preeminence in the allocation of rate base between interstate and local services, *see* 47 U.S.C.A. § 419(e) (Supp. 1976). Finally, invoking the principle that an agency's established construction of its enabling legislation is entitled to deference,[5] the Court noted that the FCC has consistently asserted its jurisdiction over facilities and equipment used in both interstate and local communication.

C. The Present Challenge.—The genesis of this dispute was the Commission's determination, shortly after its 1969 *Carterphone* decision, to study the technical justifications for the carrier-promulgated connecting arrangement tariffs. This investigation was formalized in Docket 19528 for the announced purpose of ascertaining the best technical method of effecting the interconnection policy. In its Notice of Inquiry, the FCC attempted to insulate Docket 19528 from any further dispute about the wisdom of interconnection as a policy goal by stating that "it is not our

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[5] *E.g.*, Red Lion Broadcasting Co. v. FCC, 395 U.S. 367, 381 (1969).

intention to consider . . . any question as to whether there should be any modification of our holding in *Carterphone* or any revisions in the tariff provisions applicable to" customer interconnection, 35 F.C.C.2d 539, 542 (1972). The Commission did, however, begin a separate proceeding—Docket 20003—to consider, *inter alia*, the long-term economic impact of liberalized interconnection, and expressed a willingness to consider evidence contrary to the public policy judgment adumbrated by *Carterphone*. *Customer Interconnection*, 46 F.C.C.2d 214, 216-218 (1974). A First Report in Docket 20003 was issued after oral argument but before decision in this case.[6]

The Commission has rendered its final orders implementing the terminal equipment registration program. *First Report and Order in* Docket No. 19528, 56 F.C.C.2d 593 (1975); *Second Report and Order in* Docket No. 19528, 58 F.C.C.2d 736 (1976) [hereinafter denominated as *First Report* and *Second Report*]. Pursuant to section 402(a) of the Communications Act, 47 U.S.C.A. § 402(a) (1962), and section 2342(1) of Title 28, petitioners—most of whom are telephone companies (carriers) or state utility commissions—contest the validity of the FCC's registration program. The numerous claims made by petitioners can be systematically analyzed under three rubrics:

(1) allocation of power—does the FCC, as opposed to state regulatory commissions, have statutory authority to control customer interconnection when the "facilities" (*i.e.*, the terminal equipment) attached to the national network are themselves used over 97% of the time for local, as opposed to interstate, communication;

(2) delegation of power—assuming FCC jurisdiction

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[6] Docket 20003 deals with the broad policy and economic implications of liberalized interconnection, rather than the relatively limited economic impact of the registration program. *See* Part VB *infra*. Hence we have no occasion to consider the accuracy of or the evidentary support for the Commission's First Report in Docket 20003.

over joint terminal facilities, does the Communications Act give the Commission power to impose a registration program, to include the carriers in it, and to indirectly regulate non-carrier-affiliated manufacturers of terminal equipment; and

(3) exercise of power—assuming the FCC possesses the authority to do what it proposes, has the Commission exercise that authority in accordance with procedures required by law.

III. Allocation of Power Between the States and the FCC

A. Reconsideration Considered.—Petitioners mount their first assault over old terrain: they contend that sections 2(b)(1) and 221(b) of the Act expressly deny the FCC jurisdiction over equipment used "predominantly" in local communication.[7] Seizing on the word "nothing" in sections 2(b)(1) and 221(b), petitioners contend that these reservation clauses override any potentially contrary language elsewhere in the statute. Respondents counter by invoking the doctrine of stare decisis and this Court's policy of interpanel accord.[8]

[7] Approximately 97% of telephone calls are intrastate, In Re Telerent Leasing Corp., 45 F.C.C.2d 204, 211 (1974), a percentage that has apparently remained stable since the passage of the Communications Act, *see* 78 CONG. REC. 10316 (1934) ("97-1/2 or 98% of all telephone calls" are interstate). About 25 per cent of all "toll," *i.e.*, long distance, calls are interstate calls. *See* Use of Recording Devices, 11 F.C.C. 1033,1048 (1947).

[8] Ordinarily one panel of the Court does not overrule another, *see* Local No. 358, Bakery & Confectionary Workers Unions v. Nolde Bros., Inc., 530 F.2d 548, 557 (4th Cir. 1975) (Widener, J. concurring and dissenting), even though the second panel might have reached a different result on the merits, *cf.* United States v. Bailey, 468 F.2d 652, 669 (5th Cir., *aff'd en banc*, 480 F.2d 518 (5th Cir. 1973) (reluctantly following prior panel). It is the Court *en banc* that normally reconsiders the rulings of any particular panel. *See* Hales v. Winn-Dixie Stores, Inc., 500 F.2d 836, 853 (4th Cir. 1974) (Widener, J. dissenting).

It is true that *North Carolina I* rejected the jurisdictional challenge that petitioners press here; stare decisis would normally bar a reprise. "But *stare decisis* is a principle of policy and not a mechanical formula of adherence to the latest decision, however recent and questionable." *Helvering v. Hallock*, 309 U.S. 106, 119 (1940) (Frankfurter, J.). In the special and novel circumstances of this case, which implicates significant state and federal interests and which involves questions of statutory interpretation that have been considered by no other Court of Appeals, we conclude that stare decisis does not preclude reconsideration of our holding in *North Carolina I*. The mere fact that a prior opinion exists is not sufficient in itself to call the doctrine of stare decisis into play: otherwise one rogue opinion could deprive the law of the accumulated expertise that stare decisis strives to safeguard.

If the rule of interpanel accord serves a purpose different from that of stare decisis, its purpose must be to allocate decisionmaking power between coequal panels subject to reversal by the Court of Appeals *en banc*. Because *en banc* review in this case is prevented by disqualification of all but one of the active Judges of this Court, strict application of the rule of interpanel accord seems unwarranted. We therefore reach the merits of petitioners' jurisdictional challenge.

B. The Scope of Section 221(b).—Section 221(b) of the Act, 47 U.S.C.A. § 221(b) (1962) provides:

> "[N]othing in this chapter shall be construed . . . to give the Commission jurisdiction, with respect to . . . practices, services, facilities or regulations for or in connection with . . . *telephone exchange service . . . even though a portion of such exchange service constitutes interstate or foreign communication*, in any case where such matters are subject to regulation by a State commission or local governmental authority." (Emphasis added.)

The term "telephone exchange service" is a statutory term of art, and means service within a discrete local exchange system, *see* 47 U.S.C.A. § 153(r); *compare* 47 U.S.C.A. § 153(s) (definition of "toll," or long distance, service). As we pointed out in *North Carolina I*, the legislative history of section 221(b) leaves no doubt that the purpose of section 221(b) is to enable state commissions to regulate local exchange service in metropolitan areas, such as New York, Washington or Kansas City, which extend across state boundaries. 537 F.2d at 795 & n.11. On this appeal, petitioners do not object to that determination, apparently agreeing with our view that "by force of section 221(b) a local carrier that serves a single multi-state exchange area is assured whatever degree of freedom from federal regulation section 2(b) provides for uni-state carriers and intrastate telephone business generally," 537 F.2d at 795. Section 221(b) simply does not apply to the "facilities" with which this appeal is concerned.

C. The Scope of Section 2(b)(1).—Section 2(b)(1) of the Act, 47 U.S.C.A. § 152(b)(1) (1962), provides:

> "[*N*]*othing* in this chapter shall be construed to . . . give the Commission jurisdiction with respect to . . . practices, . . . facilities, or regulations for or in connection with *intrastate* communication service. . . ." (Emphasis added.)

North Carolina I correctly reasoned that if section 2(b)(1) were construed to give the states primary authority over joint terminal equipment, *i.e.*, equipment used interchangeably for interstate and intrastate service, then—whenever state regulations conflicted with federal rules applicable to interstate calls—the FCC would necessarily be prevented from discharging its statutory duty under sections 1 and 2(a) to regulate interstate communication. Petitioners' emphasis on the word "nothing" in section 2(b)(1) is an attempt to employ a definitional stop to prevent the Court from reaching *North Carolina I*'s otherwise dispositive argument. Essentially, petitioners contend

that the statute itself mandates state control over jointly used terminal equipment, and that therefore no possible duty of the FCC with respect to interstate communication can be compromised.

Petitioners' argument begs the question. Even if the word "nothing" overrides any contrary language, the argument fails to identify those "intrastate" facilities over which state jurisdiction is to be primary. The question is whether jointly used facilities are to be classified for jurisdictional purposes as the "interstate" facilities of sections 1, 2(a) and 3(a), or as the "intrastate" facilities of section 2(b)(1). Sections 1, 2(a) and 3(a) commit jurisdiction over facilities utilized in interstate communication to the FCC. Section 2(b)(1) does not deny the FCC jurisdiction with respect to *interstate* facilities: it excludes only *intrastate* facilities from FCC jurisdiction. The terminal equipment dealt with in the order appealed from is used for *both* interstate and intrastate communication. The withdrawal of jurisdiction over one cannot be read to mean the withdrawal as to the other. Based on the statutory policy of centralizing control over interstate communications in the FCC, the otherwise plenary jurisdiction conferred by sections 201-205, and the recognition by section 410(c) of federal supremacy in rate base allocation, we concluded in *North Carolina I* that the "intrastate" facilities of section 2(b)(1) were those facilities "separable from and . . . not substantially affect[ing] the conduct or development of interstate communications," 537 F.2d at 793. Congress' use of the word "nothing" in no way detracts from this analysis, nor does it suggest—as do petitioners—that the "intrastate" facilities of section 2(b)(1) are those items of terminal equipment used "predominantly" for local communication.

Petitioners confuse the fact that almost all terminal equipment is and has been used predominantly for local communication, with the statutory division of decision-making power. We find it difficult to credit an argument

which amounts to an assertion that Congress created a regulatory scheme that depends on the calling habits of telephone subscribers to determine the jurisdictional competence of the FCC versus state utility commissions. There can be no doubt that, when the Communications Act was passed, Congress envisioned circumstances in which the same equipment would be employed for both interstate and local communication: section 221(b)'s special provisions governing multistate local exchanges are testimony enough. Particularly revealing, therefore, is the fact that although Congress secured to the states control over multistate exchanges "even though a portion of such exchange service constitutes interstate or foreign communication," 47 U.S.C.A. § 221(b), it included no similar language in the reservation clause of section 2(b)(1). Section 2(b)(1) does *not* deny the Commission jurisdiction with respect to intrastate facilities "even though a portion of the use of such facilities is for interstate communication." Indeed, the language of section 221(b) is a reproach to petitioners' construction of section 2(b)(1). The explicit language of section 221(b) shows that when Congress meant to give primary authority over inter- and intra-state facilities to the states, it was capable of unambiguously expressing that purpose.

A brief consideration of the potential consequences of state control over jointly used terminal equipment confirms our interpretation of section 2(b)(1). Surely petitioners would not contend that if a state commission authorized interconnection of a terminal equipment device which actually interfered with the transmission of interstate communications, the FCC would be powerless to order the removal of the device. And once it is recognized that FCC regulations must preempt any contrary state regulations where the efficiency or safety of the national communications network is at stake, there can be little argument that FCC regulation of jointly used terminal equipment for the purpose of improving or expanding interstate communica-

tion services may not also displace conflicting state regulations. The aim of the Communications Act, after all, is not limited to achievement of a minimally efficient, non-dangerous national network. Instead, Congress has declared its purpose to be the creation of "a rapid, efficient, Nationwide, and world-wide wire and radio communication service with adequate facilities at reasonable charges." Communications Act § 1, 47 U.S.C.A. § 151. If it is admitted—as we think it must be—that the FCC has full statutory authority to regulate joint terminal equipment to ensure the safety of the national network, then we can discover no statutory basis for the argument that FCC regulations serving other important interests of national communications policy are subject to approval by state utility commissions.

E. The Implications of Federal Control Over Interconnection.—Petitioners characterize the registration program as an assumption of power similar to that given the Interstate Commerce Commission by the "Shreveport Doctrine" of *Houston, East & West Texas Railway v. United States,* 234 U.S. 342 (1914), a result that Congress sought to avoid in drafting the Communications Act. In the *Shreveport* case, Louisiana shippers were shut out of Texas markets by a system of intrastate rates under which rates for shipments by interstate carriers eastward from Dallas and Houston to points in Texas were set to undercut ICC rates for shipment by the same carriers over the same distances westward from Shreveport into Texas. The Supreme Court held that the ICC was not limited to lowering the interstate rates as a remedy for the discrimination against interstate commerce worked by the Texas rate system. To so limit the ICC, the Court reasoned, would force the ICC to stultify its own judgment as to reasonable interstate rates. The ICC was therefore given the alternative of suspending the Texas intrastate rates, thus enabling the carriers to raise local rates to federal levels for similar distances. Despite a proviso in the ICC legis-

lation similar to the jurisdictional reservation of section 2(b)(1) of the Communications Act, the Supreme Court held that the state power over exclusively local rates was inviolable only where local rates, in comparision with interstate rates, did not create unreasonable discriminations against interstate commerce. 234 U.S. at 357-58.

Petitioners correctly point out that in enacting the Communications Act, Congress sought to deny the FCC the kind of jurisdiction over local rates approved by the *Shreveport Rate Case*. We do not agree, however, that the registration program is some sort of regulatory atavism. Congress' dissatisfaction with the *Shreveport* doctrine was that it permitted the ICC to control the *rates* for exclusively local service because of the relationship between those rates and the interstate rates. But the FCC's registration program in no way purports to prescribe charges for local services; state commissions remain unfettered in their discretion to set rates for all local services and facilities provided by the telephone companies. *Shreveport* dealt specifically with rates for services which were admittedly local in nature; this appeal concerns the definition of what services and facilities are "intrastate" and hence subject to state rather than federal control.

The Supreme Court's recent decision in *FPC v. Conway Corp.*, 44 U.S.L.W. 4477 (U.S. June 7, 1976), is particularly instructive. Section 201(b) of the Federal Power Act, 16 U.S.C.A. § 824(b), gives the Federal Power Commission jurisdiction with respect to the sale of electric energy at wholesale in interstate commerce, but denies the FPC jurisdiction over retail sales. This limitation, the Supreme Court noted, was designed to ensure that the *Shreveport* doctrine would not be employed to expand FPC jurisdiction:

> "[T]he legislative history . . . indicat[es] that the section was expressly limited to jurisdictional sales to foreclose the possibility that the Commission would seek to correct an alleged discriminatory relationship

between wholesale and retail rates by raising or otherwise regulating the nonjurisdictional, retail price." 44 U.S.L.W. at 4779, *see id.* at 4779 n.5.

In *Conway*, the FPC contended that its lack of jurisdiction over retail sales not only prevented it from regulating retail rates to correct unreasonable discriminations against customers, but also precluded FPC action to change wholesale rates because of an alleged discriminatory or anticompetitive relationship between wholesale and retail sales. A unanimous Supreme Court held to the contrary, and affirmed the judgment of the Court of Appeals that the FPC was not precluded from adjusting wholesale rates as a means of responding to the problem of a discriminatory relationship between wholesale and retail rates. The jurisdictional limitation inspired by Congressional reaction to the *Shreveport* doctrine, said the Court, meant only that the FPC could not set retail rates as a means of dealing with the problem.

The lesson of *FPC* v. *Conway Corp.*, in the circumstances of the instant case, is that the FCC has jurisdiction to prescribe the conditions under which terminal equipment may be interconnected with the interstate telephone line network. The FCC has not attempted to control the use of terminal equipment in local communication because of the effect that such use—through the medium of the market—has on interstate communication. Instead, the FCC has established a registration program governing the interconnection of terminal equipment when that equipment is used directly to effectuate interstate communication.

Petitioners counter by claiming that the effect of federal control of interconnection with respect to the national network will be to deprive the state of "meaningful" ratemaking power. The state commissions contend that they currently subsidize residence and one-phone consumer service by charging more for business equipment (PBX's and key phones) and for extension phones than the unit costs of such equipment. Apparently, the state commis-

sions fear that increased substitution of independently provided terminal equipment for carrier-supplied equipment will reduce revenues and the corresponding amount of money available to subsidize other services and facilities.

We hold that the registration program—*as a jurisdictional matter*—does not jeopardize state ratemaking prerogatives to subsidize favored types of service. The states remain free to approve the pricing of carrier-supplied terminal equipment above or below unit cost. The effect of the federal program will depend upon the extent to which independents invade the terminal equipment market and undersell the regulated price. But cross-subsidization can still be accomplished by differential charges for services where there is no competition. For example, state commissions can permit carriers to classify and bill business line exchange service at rates higher than private line service if they desire to subsidize the latter.

Recognition of federal primacy in the regulation of jointly used terminal equipment no more curtails state ratemaking power *as a matter of statutory jurisdiction* than would the denial of state authority to set rates for interstate calls in order to subsidize local exchange and intrastate services. In the end, the problem of subsidy reduces to the tactical problem of obtaining sufficient revenues to cover the difference between the cost of providing subsidized service and the regulated price of subsidized service. Whether that amount is obtained by overcharging on PBX's, by overcharging on business phone exchange service, or even by direct legislative appropriation, is largely academic as far as statutory jurisdiction is concerned. Political expediency may encourage state commissions to defend their current option to bury subsidy costs in as many holes as possible, but this concern cannot be allowed to determine the allocation of jurisdictional competence between state and federal agencies.

To support their retention of "meaningful" ratemaking power, petitioners resort to the science of statutory inter-

pretation. No part of a statute, they argue, should be read in a fashion that makes it "meaningless";[9] and to establish FCC authority over jointly used terminal facilities as primary would, according to petitioners, render the term "facilities" in section 2(b)(1) meaningless.

Reliance on the maxim of meaningfulness is misplaced in the circumstances of this case. First, the maxim is only a guide for interpretation when analysis of statutory purpose fails to resolve a dispute about statutory meaning,[10] and carries little weight against the major policy arguments favoring FCC jurisdiction and the Commission's consistent assertion of FCC authority over jointly used equipment. Moreover, the maxim seems inappropriate to the construction of boilerplate language in an extremely general delegation statute. Finally, the Commission's construction makes the term "facilities" meaningless not because exclusively intrastate facilities cannot be built or imagined (indeed, some are already in existence), but because state commissions prefer to avoid the economic and political costs of forcing the general consumer to buy two sets of terminal equipment.

E. Agency Estoppel.—It is true that most practices regarding terminal equipment have historically been regulated by the states, and that the FCC has always formulated its decisions in terms of equipment used for "interstate communication." Petitioners contend that these facts establish an FCC interpretation of the statute which should now be held to bar FCC jurisdiction over jointly used terminal equipment.

While we agree that an agency's construction of its en-

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[9] *E.g.*, United States v. Menasche, 348 U.S. 528, 538-39 (1955); Co-operative Grain & Supply Co. v. Commissioner, 407 F.2d 1158, 1162 (8th Cir. 1969); Donaldson, Hoffman & Goldstein v. Gaudio, 260 F.2d 333, 336 (10th Cir. 1958).

[10] See H. M. HART & A. SACKS, THE LEGAL PROCESS: BASIC PROBLEMS IN THE MAKING AND APPLICATION OF LAW 1412 (tent. ed. 1958).

abling statute is entitled to deference from the courts, we have a good deal of difficulty with the more sweeping proposition that an agency is forever bound by its own prior view of its jurisdiction. Such a rule would not only be antithetical to the policy rationale for administrative agencies (ability to tailor broad legislative directives to fit specific problems), but would also contradict the central assumption of the rule respecting an agency's construction of its enabling statute. That assumption is that the agency's accumulated expertise makes it particularly well qualified to determine how the legislature might have dealt with a particular fact situation had that situation been among the conceptual paradigms to which the general language of a statute speaks. Petitioners' proffered rule of agency estoppel would confound that assumption by preventing an agency from revising its approach to problems on the basis of experience in dealing with the range of disputes generated by particular configurations of statutory powers and duties.

Moreover, agency estoppel could hardly be enforced on the facts of this case. FCC decisions not unexpectedly refer only to the use of equipment for "interstate communication," but the relevant cases firmly establish the Commission's view that when facilities are used for both interstate and local communication, state regulations must give way to federal regulations even though the latter unavoidably affect local communication in the process of regulating interstate communication. Thus in *AT&T (Railroad Interconnection)*, 32 F.C.C. 337, 339 (1962), the FCC ruled that "there is no doubt that this Commission has jurisdiction over [local] exchange facilities to the extent that such facilities are used in accomplishing interstate toll communication." In cases involving the attachment of special mouthpieces to telephones,[11] the interconnection of radio

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[11] Hush-A-Phone Corp. v. AT&T, 22 F.C.C. 112 (1957), *on remand from* Hush-A-Phone v. United States, 238 F.2d 266 (D.C. Cir. 1956).

base stations and telephone lines,[12] the attachment of recording devices to telephones,[13] the use of automatic answering devices,[14] the connection of teletypewriter equipment to the telephone network,[15] the regulation of the

[12] *Carterphone*, 13 F.C.C.2d 420 (1968), *reconsideration denied*, 14 F.C.C.2d 571 (1968).

[13] In Use of Recording Devices, 11 F.C.C. 1033 (1947), the Bell System contended that the practical impossibility of separating interstate and intrastate uses of recorders attached to the telephone network created a situation where "any order of the Commission requiring that the telephone companies permit, prohibit, or restrict the use of recording devices in connection with interstate toll service would affect intrastate service." The Bell System further maintained that by virtue of sections 2(b)(1) and 221(b) "the jurisdiction of the Commission to make an order regulating the use of recorders is limited to use in connection with facilities which are exclusively intrastate," 11 F.C.C. at 1046. The Commission rejected Bell's argument:

". . . It may be commented further, however, that the Bell System argument ignores the real consideration that interstate and foreign message toll telephone service requires the use of facilities that are not 'exclusively interstate.' This service necessarily involves all the facilities, charges, classifications, practices, services and regulations used in the rendition of the service, and regulation of such service must be able to deal with all or any of the matters so involved if it is to be effective."
11 F.C.C. at 1047.

[14] In Jordaphone Corp. v. AT&T, 18 F.C.C. 644 (1954), the Commission categorically rejected the contention that it did not have jurisdiction to decide whether the defendant telephone companies should be ordered to permit interconnection of answering devices. 18 F.C.C. at 670. On the merits, however, the FCC concluded that the proponents of the proposed order had failed to show a sufficient need for FCC action.

[15] *See* AT&T-TWX, 38 F.C.C. 1127, 1133 (1965) ("for us to conclude that, because the facilities or instrumentalities are used in intrastate as well as interstate communications service, we do not have jurisdiction . . . would leave a substantial portion of the interstate communication service unregulated. We do not believe the Congress so intended.")

interconnection of right-of-way telephone lines and the national telephone network,[16] the control of the use of the telephone network for illegal purposes,[17] and the interconnection of military communications lines with the national network,[18] the FCC has never considered its jurisdiction inadequate because effectuation of the federal policy of interconnection might—as a practical matter—make enforcement of less liberal state rules difficult if not impossible. Additional reference to history would be otiose. The vast majority of terminal equipment has been—and is—regulated by the states, but the FCC has never conceded that joint equipment is beyond federal jurisdiction should the need for federal action arise.

IV. Delegation of Power

Assuming but not conceding that the FCC possesses statutory jurisdiction over jointly used terminal equipment, petitioners argue that the registration program exceeds the FCC's statutory power over interstate carriers, and amounts to an impermissible assumption of power over non-carrier-

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[16] *See* AT&T (Railroad Interconnection), 32 F.C.C. 337, 339 (1962).

[17] In Katz v. AT&T Co., 43 F.C.C. 1328, 1332 (1952), the Commission "flatly rejected" the argument that it lacked jurisdiction to act "where both interstate and intrastate telephone facilities were involved," and commented:

> "The fact that the same instruments are used for both interstate and intrastate services . . . does not alter the Commission's duties and obligations with respect to interstate telephone facilities. Were the Commission to exercise its jurisdiction only where the telephone facilities in question were exclusive interstate in character, it would result in virtually complete abdication from the field of telephone regulation by the Commission."

[18] *See* Dept. of Defense v. General Telephone Co., 38 F.C.C.2d 803, 807-12 (1973), *review denied*, FCC 73-854 (1973), *aff'd per curiam sub nom.* St. Joseph Tel. & Tel. Co. v. FCC, 505 F.2d 476 (D.C. Cir. 1974).

affiliated manufacturers. Petitioners also object to required registration of carrier equipment because (1) authority for a registration program is not explicitly delegated by the Communications Act; (2) prior versions of section 215 granting a much broader power to investigate the "equipment" furnished to carriers, were not enacted; (3) FCC attempts to force AT&T to seek prior Commission approval before filing tariffs has been declared unlawful by the courts; and (4) the FCC has—until the present—never claimed the power to require registration of carrier equipment.

A. Independent Manufacturers.—We consider as no more than makeweight petitioners' claim that the registration program constitutes an impermissible regulation of independent manufacturers. That economic incentives may induce independent manufacturers to comply in order to compete effectively with registered products is immaterial: specifications for railroad rolling stock (which are directly applicable to carriers) under the Safety Appliance Acts have never been thought to constitute unlawful regulation of suppliers of rolling stock. We cannot see how the registration program—which tells a customer which types of devices may be directly attached to the national network without the intermediary CAs and NCSUs—can be seen as an unlawful attempt to regulate independent manufacturers. All manufacturers of terminal equipment, including the carriers and their subsidiaries, are free to register their equipment or not in accordance with their perceptions of economic self-interest.

In essence what petitioners are attempting is the *preservation of the carriers' private lawmaking authority over independent manufacturers.* Present tariffs proposed by carriers permit interconnection without the use of CAs and NCSUs in cases where certain carrier-initiated attestation procedures are followed by manufacturers. Other carrier-initiated tariffs permit and sometimes require interconnection of non-carrier-supplied equipment in remote and/or

hazardous areas. And the conditions under which right of way companies may interconnect with the national network are established by carrier-promulgated tariffs.[19] Surely it is anomalous for the carriers to invoke FCC authority to enforce these tariffs which regulate the use of private equipment, and yet deny that the Commission can prescribe carrier practices (as it clearly can under section 205) merely because such FCC action will have the effect of inducing private equipment manufacturers to alter the technical specifications of their products.

B. Carrier Inclusion.—The contention that the absence of explicit statutory authorization prevents the FCC from adopting a registration program contradicts all relevant authority[20] and confounds the very purpose of agency delegation—institutionalization of authority to fashion policies and programs that implement broad legislative mandates in presently unforeseeable circumstances.[21] The early versions of section 215 were designed to limit the anticompetitive potential of carrier-supplier contracts and practices. The fact that these prior versions were not enacted represents, at most, a congressional determination to leave antitrust enforcement to the Justice Department, and certainly does

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[19] *See, e.g.*, AT&T Foreign Attachment Tariff Revisions, 15 F.C.C.2d 605, 607 (1968).

[20] *E.g.*, National Broadcasting Co. v. United States, 319 U.S. 190, 218-19 (1943) (FCC power to take action not explicitly authorized by Communications Act upheld; "itemized catalogue" of specific problems and powers of a regulatory agency would "frustrate the purposes for which the Communications Act" was passed; GTE Service Corp. v. FCC, 474 F.2d 724, 730-31 (2d Cir. 1973) (fact that Communications Act makes no reference to computers and data processing does not prohibit FCC from regulating carrier activities in those fields); Mt. Mansfield Television, Inc. v. FCC, 442 F.2d 470, 480-81 (2d Cir. 1971) (FCC may regulate prime time access in television despite lack of specific statutory authorization).

[21] *E.g.*, American Trucking Assoc., Inc. v. United States, 344 U.S. 298, 309-10 (1953).

not reveal some sort of inchoate limitation on the FCC's power to control the equipment attached by carriers to the national network. The fact that the FCC has not previously attempted to control directly the carriers' equipment does not mean that the Commission has interpreted the Act to deny it jurisdiction over carrier equipment. Even if the principle that an agency's construction of its enabling statute is entitled to deference, could be employed to estop an agency from revising its views (a proposition of not inconsiderable difficulty [22]), the principle is inapposite to the facts of this case.

Sections 203 through 205 do prescribe a procedure for review and approval of tariffs by carriers, but section 205 itself gives the Commission power to determine and set just and reasonable charges and practices if it finds present tariffs to be unreasonable. The FCC may not exercise this authority unless it first provides interested parties "full opportunity for hearing," *see* 47 U.S.C.A. § 205(a), but there is no contention that this requirement has not been met in this case. Thus, the instant case is not governed by the holding of the United States Court of Appeals for the Second Circuit that the FCC could not require AT&T to obtain its approval before filing a carrier-initiated rate revision. *See AT&T Co.* v. *FCC*, 487 F.2d 865 (2d Cir. 1973). That case was based on the holding that the prior approval scheme contravened the express procedural dictates of sections 203 and 204. The FCC's registration program, however, has been established under section 205 authority and in no way attempts to alter the procedure by which carriers file tariffs under sections 203 and 204.

V. Exercise of Power: Considerations of Economic Impact

We have reaffirmed our decision in *North Carolina I* that the Communications Act grants the FCC, rather than the states, primary authority over terminal equipment used for

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[22] *See* Part IIIE *supra*.

both interstate and local communication (Part III, *supra*). We have determined that the powers delegated to the Commission by the Act include the power to establish a registration program for all terminal equipment (Part IV, *supra*). We turn now to petitioners' third claim—that the FCC, even if it should be held to have the jurisdictional competence and the statutory authority to adopt a registration program for joint terminal equipment, has failed to exercise that power in a lawful manner.

Petitioners make two main objections. First, they claim that the FCC erroneously concluded that the public benefits of interconnection under a registration program would be greater than the cost of the registration program. Second, petitioners contend that the FCC neglected to consider the economic impact of its registration program, and that such an evaluation must be completed before the registration program can be put into effect.

A. Program Cost.—Our inquiry here focuses on the cost of the registration program itself, *i.e.*, the cost to carriers and independent manufacturers of complying with the program's administrative requirements. We do not, at this point, address the program's economic impact on carrier revenue sources.

At first glance, petitioners' position appears to be that the FCC incorrectly estimated the cost of compliance with its registration program. Yet petitioners point to no evidentiary irregularities or omissions that flawed the Commission's deliberations. What petitioners actually attack is the FCC's judgment that the costs of the program will be "minimal," First Report ¶ 20 & n.10; *see also* Second Report ¶¶ 12-13, and the FCC's conclusion that the public benefits of liberalized interconnection under a registration program will exceed the costs of implementing and complying with that program. First Report ¶ 16.

Petitioners emphasize the projected costs of registration, but this misapprehends the office of judicial review of

agency action. The absolute cost of a registration program does not determine its lawfulness. To be sure, the registration program involves expenses which terminal equipment manufacturers currently avoid, but increased expenses inevitably accompany *any* regulation of industry. The question for the Commission is whether the public benefits of a registration program outweigh the costs. The question for the Court is whether the FCC's judgment is supported by substantial evidence.[22]

Even if petitioners' protestations about registration costs are fully credited,[23] petitioners suggest no reason to suspect that the Commission's decision was fundamentally defective or not supported by substantial evidence. Indeed, the specifics of the program-type registration, simplified registration for equipment currently in use, and grandfathering of almost all carrier equipment—should ensure that expense will be held to the minimum consistent with any registration program. If a manufacturer finds registration too burdensome, it can continue the current practice of selling equipment for attachment using carrier-supplied CAs and NCSUs. Moreover, the record shows that, in response to carrier

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[22] [*] *See* 5 U.S.C. § 706(2)(E).

[23] The Bell System alone originally estimated its cost of compliance at $350 million, *see* Memorandum Opinion and Order, Docket 19528, February 13, 1976, 57 F.C.C.2d 1216, 1225-26 (1976) (A. 1722-23). That estimate has been revised, due to changes in the nature of the registration program and to the "grandfathering" of carrier equipment, to $94 million for the first year of the registration program, *see* Brief for Petitioners at 98-99 & nn. 137-138. The FCC found that the first estimate was "unsupported either by affidavit or explanation," and expressed its doubt that "an unsupported estimate of cost by a party which has consistently opposed any registration program provides an adequate basis for further delay." Memorandum Opinion and Order, 57 F.C.C.2d 1216 (1976) (A. 1723). The current estimate is supported by affidavit only, and is conspicuously lacking in hard data on cost breakdown or itemization.

[* Text of Court's Opinion Contains Two Footnotes 22]

suggestions, the FCC streamlined its registration requirements, thereby reducing the cost of registration (according to carrier figures) by an estimated 250 million dollars.[24] We see no institutional impediment to continued cooperation between the FCC and the carriers to keep registration expenses to a minimum.

In designing its registration program, the Commission has fully evaluated petitioners' cost projections. Petitioners' claims amount to no more than a quarrel with the Commission about where the public interest lies. Because petitioners fail to show any defects in the process by which the Commission made its decision, it would be a naked assertion of judicial power for this Court to reverse the Commission's determination that the registration program will further the public interest. On this record, there is no warrant for upsetting the Commission's judgment, and we must therefore respect it.

B. Economic Impact.—Petitioners argue that the registration program will cause significant decreases in carrier revenues as customers purchase independently manufactured terminal equipment rather than renting carrier-supplied equipment. The loss of revenues from terminal equipment, they contend, will in turn force major changes in rates for residential service presently subsidized by prices for terminal equipment which are above unit cost. Petitioners allege that the Commission has not even considered the possible economic impact of its registration program, and that an extensive analysis of economic impact must be completed before the program can lawfully be put into effect.

1. A Perspective on Controversy.—A fundamental error infects petitioners' analysis of economic impact: they confuse the economic impact of the *interconnection policy*, which has been in effect since 1969, with the economic impact

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[24] *See* Brief for Petitioners at 98-99 & nn. 137-38.

of the *registration program*. Since 1969, carrier-filed tariffs have permitted all subscribers to purchase any type of terminal equipment from independent manufacturers and attach that equipment to the telephone line, as long as the carrier-supplied CAs and NCSUs are employed.[25] The only difference between the registration program and the current tariffs is that under the program customers will be permitted to attach registered terminal equipment without paying the carriers for CAs and NCSUs.[26]

Petitioners do not challenge the legality of the FCC's interconnection policy, and apparently they do not contend that the current carrier-filed "connecting arrangement" tariffs must be suspended while an in-depth study of their economic impact is completed. Therefore, in assessing the economic impact of the *registration program*, we must focus on the economic effects of the elimination of CAs and NCSUs only.

2. Revenue Losses.—The contention that elimination of CAs and NCSUs will cause direct revenue losses is unfounded. The carriers have consistently maintained that prices currently charged for CAs and NCSUs no more than

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[25] "Since 1968, customers have been afforded the right pursuant to Hush-A-Phone and Carterphone to provide their own terminal equipment of all types, and independent manufacturers and distributors have been afforded the opportunity to supply such equipment to the public in competition with the vertically integrated telephone industry." Second Report and Order ¶7 (March 18, 1976).

[26] As the Commission stated in its Notice of Inquiry that formally began Docket 19528: "it is not our intention to consider in this proceeding any question as to whether there should be any modification of our holding in Carterphone. . . . We believe the soundness of our Carterphone decision has been amply demonstrated. . . . Our proceeding herein is concerned with . . . whether . . . there is a public need for us to . . . permit customers to provide [their own] NCSU's and CA's in interstate" communications. 35 F.C.C.2d at 542 (1972).

recoup their costs of providing the intermediary devices.[27] Thus, if the intermediary devices were eliminated, the carriers would suffer no net decline in revenues, according to their own figures. Nor would the carriers' ability to compete with independent sellers of terminal equipment be directly impaired by elimination of the intermediary devices: since these devices are currently priced at cost, they provide no excess revenue to underwrite competition in terminal equipment. In short, elimination of CAs and NCSUs will have no different direct economic impact than the present "connecting arrangement" tariffs.

It might be argued, however, that elimination of CAs and NCSUs will directly reduce carrier revenues because independent terminal equipment can be purchased and used at a lower cost to the customer under the registration program. That is, the customer will no longer have to pay the price of the terminal equipment plus the cost of the intermediary devices, and carriers will face the unpleasant alternative of either losing sales or lowering prices on terminal equipment.

Two difficulties beset this argument. First, it makes the illogical assumption that independents can manufacture equipment that will perform the functions currently performed by CAs and NCSUs (a precondition for registration) without a commensurate increase in costs.[28] Second, it postulates a kind of price-sensitive competition that peti-

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[27] "These connecting arrangements . . . were never alleged to be necessary as an anti-competitive deterrent to the purchase of non-carrier equipment. Nor were they alleged to be necessary as a surcharge needed to produce revenue 'contribution' to the telephone companies. Rather they were alleged to be necessary solely to protect the nation's telephone network from any technical harms which non-carrier terminals might produce." Second Report and Order ¶ 14 (March 18, 1976)

[28] One independent manufacturer has claimed that its redesign costs alone could "well amount to $500,000" under the registration program.

tioners' own facts belie. Petitioners tell us that they *presently* overcharge on sophisticated terminal equipment in order to subsidize residential service, yet they are unable to show that, under the interconnection policy in effect since 1969, this practice has resulted in diminished sales of terminal equipment. The logical conclusion is that even if increases in independents' costs (and prices) do not equal the price of CAs and NCSUs, the *registration program* can hardly be expected to cause a significant "substitution effect." Should independents choose to cut prices or engage in significant nonprice competition, any economic impact from such tactics would properly be attributed to the *interconnection policy* which ended the carriers' monopoly over terminal equipment, and not to the *registration program*.

C. The Necessity for Prior Economic Analysis.—Petitioners insist that the Commission must make a thorough study of all possible economic impacts before the program can be put into effect. We hold that the statutory prerequisites for FCC action have been met, and reject petitioners' attempt to characterize the Commission's position as a refusal even to consider potential economic impact.

Contrary to petitioners' assertions, no general principle of administrative law forces all agencies to conduct exhaustive economic impact studies before taking action. Such a requirement would hamstring administration at every juncture of the policy making and implementation process. Rather, the prerequisites for agency action—as a fair reading of the cases cited by petitioners reveals—are enumerated by each agency's enabling statute.

Section 205(a) of the Communications Act, 47 U.S.C.A. 205(a) (1962), provides:

> "Whenever, after full opportunity for hearing . . . the Commission shall be of opinion that any charge, classification, regulation, or practice of any carrier or carriers is or will be in violation of any of the provisions of this chapter, the Commission is authorized and

> empowered to determine and prescribe what will be the just and reasonable charge . . . and what classification, regulation, or practice is or will be just, fair and reasonable, to be thereafter followed. . . ."

The unreasonableness and discriminatory effect (in violation of sections 203 and 204) of the present "connecting arrangement" tariff is established and is not challenged on this appeal. Therefore, all explicit statutory prerequisites for Commission action to prescribe carrier practices have been fulfilled.

We would be remiss, however, if we permitted the FCC to implement a registration program that would have major effects on rates paid by telephone subscribers without even considering that potential economic impact. The purpose of the Communications Act—to establish "a rapid, efficient, Nation-wide and world-wide wire and radio communication service with adequate facilities at reasonable charges," 47 U.S.C.A. § 141 (1962)—would be undercut if the Commission could adopt "technical" requirements without making a preliminary reasoned assessment of their economic impact. On the other hand, section 151 would be equally frustrated if the Commission were barred from acting unless it first performs an in-depth economic analysis of every decision it must make and every program it adopts.

We reject, as inconsistent with section 205, petitioners' contention that the Commission must complete a full-scale economic inquiry before implementing its registration program. While the Communications Act secures a major role for carriers in the filing of binding tariffs, *see* 47 U.S.C.A. §§ 203-204 (1962), section 205 clearly permits the Commission to prescribe carrier practices and regulations when carrier-filed tariffs are determined to be in violation of the substantive requirements of the Act. Petitioners' argument not only ignores this express authority granted by section 205 to the FCC, but would produce the anomalous result that an admittedly illegal carrier-filed tariff would remain

in effect pending completion of an economic inquiry concerning a presumptively legal FCC regulation.

Nor can we subscribe to petitioners' claim that the Commission has refused to consider the economic impact of the registration program. The Commission has consistently maintained that the registration program will have an economic impact that is not substantially different from the impact of the present "connecting arrangement" tariffs. Consequently, the Commission views Docket 19528 as limited to the "technical" aspects of registration, although it continues to investigate the long-term economic impact of the interconnection policy in Docket 20003.[29]

If the registration program posed a major threat to carrier revenues, the Commission, of course, could not blink reality and assume the impact away. But it is equally true that petitioners cannot create an economic impact with the volume of their jeremiad. Their claims of economic impact are refrains of assertions that the FCC has consistently found to be unsubstantiated by evidence, conclusory, and based on unrealistic assumptions about market behavior. *See Carterphone*, 14 F.C.C. 2d at 573 & n.3, *Notice of Inquiry in* Docket 20003, 46 F.C.C. 2d 214; Customer Interconnection, 49 F.C.C. 2d 1238, 1239. Our own analysis of the potential

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[29] Thus, in its First Report and Order, the Commission clearly—and correctly—limited Docket 19528 to consideration of the impact of the registration program rather than the interconnection policy:

"Our Carterphone policy has permitted the public to utilize various types of equipment with the public communications network. It is our firm belief that public benefits have resulted from this policy. The purpose of Docket 19528 is not to revisit Carterphone but rather to review the present limitations imposed on the attachment of equipment to this network. . . . The potential economic consequences of *any* decision in this proceeding are minimal, since they affect only the differential costs and revenues associated with customer-provided vis-a-vis carrier-provided protective circuitry and procedures—not with the terminal device per se." First Report and Order ¶ 19 n.10.

impact of the registration program, *see* part VB, *supra*, satisfies us that the Commission's operational assumption that replacing CAs and NCSUs with a registration system will have minimal economic impact, is sound. We can discover no statutory requirement that compels the Commission to test this assumption in time-consuming additional proceedings.

We repeat that the Commission has not denied its responsibility to consider the *economic impact of its registration program*. What the FCC has done is to make reasonable assumptions about economic impact based on the evidence currently available. The Commission's recognition of its responsibility to consider economic impact is evidenced by its announced policy of granting appropriate relief to carriers who can show injury from liberalized interconnection. In *Mebane Home Telephone Co.*, 53 F.C.C.2d 473, 480 (1975), the FCC provided that restraints on interconnection will be authorized whenever a carrier files a petition and demonstrates that "compliance with the obligation . . . has already resulted in or will result in direct, substantial and immediate economic injury to [the] telephone system and *detriment to the public interest.*" (Emphasis added.)

This exemption from the FCC's interconnection policy and the proposed registration program seems adequate protection for the carriers as institutions, and for the public interest if it be implicated by any substitution effect. To further delay effectuation of the registration program would be an excess of caution. This is particularly true in the circumstances of this case, where the alternative to permitting the FCC's program to go into effect is to allow the carriers to continue to operate under their "connecting arrangement" tariffs which are themselves unlawful.

The Commission's First Report and Order in Docket No. 19528, 56 F.C.C. 2d 593 (1975); its Second Report and Order in Docket No. 19528, 58 F.C.C. 2d 736 (1976), and its Memorandum Opinion and Orders released February 13, 1976, March 15, 1976, and April 28, 1976, are affirmed.

WIDENER, Circuit Judge, dissenting:

I am respectfully unable to join in the opinion of the court,[1] which in my view evinces an impressive lack of concern for the ordinary home telephone subscribing public—those who bear the risk of ultimately paying for their newly-acquired right of unrestricted interconnection in the form of higher rates for telephone service.

As a preliminary matter, I indicated in my dissent in *North Carolina 1* my belief that the FCC's adventure into the regulation of terminal equipment interconnection encroaches upon the regulatory sphere reserved by Congress to the States. I continue to adhere to the jurisdictional views I expressed in that case, and would set aside the Commission's orders on that ground alone. See 537 F2d at 796. I am unable to refrain from repeating the admonition I expressed in my prior dissent that, "Depriving the States of jurisdiction deprives them of the right to regulate, which in turn deprives them of the right to distribute the burden of telephone service among the various classes of customers." 537 F2d at 799.

Jurisdiction aside, however, I cannot accept the court's upholding of this all-embracing regulatory scheme in light of the Commission's stout refusal to conduct a reasoned inquiry into the economic implications of both unrestricted customer interconnection and the inclusion of carrier equipment in the registration program. I view the absence of such an inquiry as nothing less than a refusal by the FCC to consider pertinent evidence proffered by petitioners, see *Morgan* v. *United States*, 298 U.S. 468 (1936); *Chicago Junction Case*, 264 U.S. 258 (1924); *S. D. Warren Co.* v. *NLRB*, 342 F2d 814 (1st Cir. 1965), cert, den. 383 U.S. 958 (1966), which should require us to hold the Commission's

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[1] I do not disagree that this panel has the right to reexamine a holding of a previous panel when in both cases en banc consideration is precluded because of disqualifications. Otherwise, many subjects would be relatively frozen.

action arbitrary, capricious, and an abuse of discretion.[2] 5 USC § 706(2)(A).

The majority characterizes this case as merely a dispute between petitioners and the FCC as to where the public interest lies, based upon a balancing of interests. With due respect, I think the posture of the case is misconceived. The fault lies not only in the fact that such regulatory action was taken, but at least equally in the fact that administrative judgment was reached with utter disregard of evidence pertinent to the public interest.

This court, let alone the petitioners, of course is not entitled to impose its policy judgments in place of those properly arrived at by the Commission. But we abdicate our responsibility as a reviewing court when we fail to insist that regulatory action, once taken, results from a process of fair, reasoned decisionmaking. *International Harvester Co.* v. *Ruckelshaus*, 478 F2d 615 (D.C. Cir. 1973); *Greater Boston Television Corp.* v. *FCC*, 444 F2d 841 (D.C. Cir. 1970), cert. den., 403 U.S. 923 (1971). To that end, basic principles of administrative law have evolved that require such agencies as the FCC to make necessary supportive findings of fact, *Saginaw Broadcasting Co.* v. *FCC*, 96 F2d 554 (D.C. Cir. 1938), cert. den. 395 U.S. 613 (1938), and to "articulate with reasonable clarity its reasons for decision, and identify the significance of crucial facts." *Greater Boston*, at 851.

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[2] The Administrative Procedure Act does not specify a particular standard of review applicable to informal rulemaking proceedings such as that conducted by the FCC in this case, which considered written comments only. Nevertheless, the "arbitrary, capricious, an abuse of discretion or otherwise not in accordance with law" standard of § 706(2)(A) has generally been assumed to apply. See generally, *Verkuil, Judicial Review of Informal Rulemaking*, 60 Va. L. Rev. 185, 206 (1974). The substantial evidence standard invoked by the majority has been viewed as particularly ill-suited in the informal rulemaking context. *Id.*

Here, while the grounds upon which the Commission acted are not left to our speculation, and we are advised as to the facts before the Commission when it acted, both are manifestly inadequate to support the far-reaching regulatory action taken. *Gulf States Utilities Co.* v. *FPC*, 411 U.S. 747 (1973); *FCC* v. *RCA Communications, Inc.* 346 U.S. 86 (1953); see *SEC* v. *Chenery Corp.*, 318 U.S. 80 (1943). The serious and thus far unrefuted claims of adverse economic effect advanced by the petitioners, the Commission's fundamental statutory obligation to oversee the provision of communication services at reasonable charges to "all the people of the United States,"[3] and the equally basic duty of an agency to consider all pertinent public interest factors properly before it in exercising its rulemaking or adjudicatory functions,[4] dictate that the FCC be required to conduct an inquiry into potential impact on telephone rates to the public prior to embarking on this expensive, risky, uncertain, and largely irreversible course. There is a certain irony apparent when one realizes that this entire regulatory scheme was ostensibly designed to foster the right of the *public* to enjoy freer interconnection of privately manufactured facilities, while at the same time it is almost wholly the same *public*, rather than a relatively small number of equipment manufacturers and large scale business subscribers, that is forced to assume the risk of a correct economic forecast on the part of the carriers.

The cavalier attitude of the FCC throughout both these cases is accurately shown by the passage in its brief in opposition to a stay in this case (p. 24):

> "In short, it is the carriers' customers, not the carriers, who will pay for whatever expenses the carriers may incur in conforming to the equipment registration program."

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[3] 47 USC § 151.

[4] *Permian Basin Area Rate Cases*, 390 U.S. 747; 791-92 (1968); see *Citizens to Preserve Overton Park v. Volpe*, 401 U.S. 402, 416 (1971).

I

FCC's Failure to Consider Economic Impact

A. *Impact of Customer Substitution*

The projections of economic cost flowing from liberalized interconnection submitted by petitioners to the FCC are not insignificant; one study by the National Association of Regulatory Utility Commissioners estimated the cost to consumers at 360-740 million dollars yearly by 1980. In addition, the Bell system estimates its direct registration costs at 94 million dollars in the first year alone, an estimate that stands unrefuted, and which alone should give us pause. While I cannot vouch for the accuracy of these figures, a task better suited to the expertise of the FCC, they are not shown to be irresponsible and the distinct possibility that they may be accurate convinces me that an agency concerned with the public interest cannot afford to ignore them as is done here. And contrary to the majority's assertions that the Commission has considered all relevant cost data, it is at once apparent that it has not. Indeed, the Commission admits that its Docket 19528 proceeding was concerned solely with issues of technical harm to the telephone network. *Second Report and Order in Docket 19528*, ¶12.

Underlying the cost data analyses of the Commission is the myopic assumption that the costs associated with widespread customer interconnection have nothing to do with this case.[5] I could not more strongly disagree. Never, from *Carterfone's* abstract assertion of the right of customer interconnection until the present proceeding, has a telephone subscriber been accorded a right of virtually unrestricted interconnection of his own equipment. Under

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[5] "The purpose of Docket 19528 is not to revisit *Carterfone* but rather to review the present limitations imposed on the attachment of equipment to this network. Thus, issues relating to the potential overall economic impact of the *Carterfone* policy are beyond the scope of this proceeding." FCC *First Report and Order in Docket 19528*, ¶19 n.10.

post-*Carterfone* tariffs he has had the ability to interconnect only through the medium of protective circuitry provided by the carriers. In these circumstances, it is not surprising that carriers have not suffered revenue losses from interconnection up to now. It is difficult to conceive why a telephone customer would incur the expense of buying his own 'phone, only to be required to rent protective circuitry from the telephone company at an added expense that would be unnecessary if he had rented a carrier telephone in the first place. The Commission is undoubtedly correct when it concludes that the present tariffs are restrictive of interconnection; what it fails to show is how at the same time it can seriously insist that the elimination of that restriction portends nothing in terms of lost revenues from interconnection.[6]

It is also worth noting in this connection that the FCC has never been asked by a party to this proceeding to duplicate any inquiry that had previously been undertaken in *Carterfone*. For *Carterfone* itself, despite its broad declaration of policy, never purported to examine the economic implications of that policy. Indeed, there was no necessity of doing so in that case, which had nothing whatever to do with customer substitution of equipment traditionally supplied by telephone carriers. The extension of the *Carterfone* policy into the substitution area awaited the *Mebane* decision, in which the Commission again failed to take stock of

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[6] "The potential economic impact of *any* decision in this proceeding are minimal, since they affect only the differential costs and revenues associated with customer-provided vis-a-vis carrier-provided protective circuitry and procedures —not with the terminal device *per se*." Id.

With respect to direct protective circuitry revenue losses, the extent of such losses, or whether they exist at all, would be an appropriate concern of the FCC on remand. Suffice to say at present that I find no admission, as asserted by the majority, by petitioners in the tape of oral argument that prices charged for such circuitry no more than recoup the costs of providing them.

the likely effect of its policy on telephone rates. Rather, carriers were offered the after-the-fact opportunity, today approved by this court, of exempting themselves by demonstrating the threat of "substantial and immediate economic injury to [the] telephone system and detriment to the public interest." 53 F.C.C. 2d 473, 480 (1975). I do not approve of this procedure, which for all practical purposes constitutes an unlawful delegation of responsibility for safeguarding the public interest from the FCC, where it properly belongs, to private carriers, whose interests will not always coincide with those of the public.

Had the FCC taken concrete steps to implement widespread customer substitution in *Carterfone*, as it has done here, the omission of an economic inquiry would have called into question the validity of its action at that time. That the Commission waited eight years before taking such steps does not relieve it of its basic obligation to consider fully all evidence bearing on the public interest in advance of taking regulatory action. The fulfillment of that obligation is what this case is about. A disinclination by the FCC, approved by the majority here, to "revisit *Carterfone*" simply misses the point.

B. *Direct Carrier Registration Costs*

So far I have focused on the failure of the FCC to consider the long term economic implications of interconnection in conjunction with its Docket 19528 proceeding, and have demonstrated how that failure violated the Commission's obligation to arrive at reasoned conclusions based on consideration of all factors pertinent to the public interest. Even if the costs associated with interconnection were not relevant to this proceeding, however, I would still be impelled to apply much of the preceding discussion to the direct costs of carrier compliance with the registration program, and to set aside the orders under review, insofar as carrier equipment is included, because of the FCC's failure to consider evidence bearing on those costs.

It is quite obvious that the Commission relied upon assumptions, which it made absolutely no effort to support, that the program would be "relatively inexpensive and easy to implement." *FCC Memorandum Opinion and Order in Docket 19528*, 57 F.C.C. 2d 1217 (1976). This assumption was made in the face of the Bell system's projection that inclusion of carrier equipment would impose costs in the first year alone of 300 million dollars. While this estimate was later revised to the not inconsiderable sum of 94 million dollars to reflect alterations in the program, the FCC never addressed itself to any of these figures, even to refute them.

I hasten to add once again that the reliability of these cost projections, whatever the extent of their logical or empirical support, is ordinarily not for the court to evaluate. It is, however, the duty of the FCC to make such an evaluation, and to do so in advance of committing carriers to multi-million dollar expenditures that are certain to be passed on to the public. If the Commission had done so, it would now be in the position that the majority sees it in—able to exercise its considered judgment and expertise in evaluating where the public interest lies—a judgment we should be hesitant to disturb. *Udall* v. *Tallman*, 380 U.S. 1, esp. 16-17 (1965).

II

Inclusion of Carrier Equipment and the Plug and Jack Requirement

I regard the inclusion of carrier equipment in the registration scheme, as well as the requirement that all items of registered equipment, with the apparent exception of PBX and key telephone equipment, be connected through the use of standard plugs and jacks,[7] defective for a reason related to, but distinct from, the economic considerations previously addressed. It is altogether plain what purpose these provi-

[7] See 47 CFR § 68.104 (1976). The FCC's *Memorandum Opinion and Order in Docket 19528* of April 28, 1976 excepts PBX and key telephone equipment. ¶ 13.

sions are intended to serve—the promotion of competition in the terminal equipment market. Of course, this is the purpose of all the action taken by the FCC in Docket 19528; even a cursory examination of all the FCC briefs admits of no other conclusion. But while the setting of quality standards for equipment produced by unregulated manufacturers to be plugged directly into the telephone network for the first time is arguably a matter that demanded FCC attention [8] to insure the safety of telephone company equipment and personnel, no such justification exists with respect to the carriers' own equipment. Carrier equipment has been connected to telephone lines since before the creation of the FCC in 1934, indeed for about a hundred years in all, and no reason is offered by the Commission for its sudden concern with the "potential" of that equipment to pose danger to the telephone network. The only possible rationale for registration of carrier equipment was well expressed by the Commission itself:

"Furthermore, when one participant in a competitive market is subject to regulatory constraints (e.g. registration of equipment) while another is not, there exists the possibility of using the registration, notification and complaint standards and procedures for competitive advantage." FCC *First Report and Order in Docket 19528*, ¶20.

It is similarly apparent that the purpose of the standard plug and jack requirement is to facilitate the ability of telephone subscribers to substitute independently manufactured equipment for that supplied by the carriers, thus stimulating competition in the equipment market.

The thrust of my objection is again largely procedural, although not wholly. Whether competition in terminal equipment is in the public interest is a question that, at the very least, must be resolved with specific findings by the FCC, not on the basis of assumptions drawn from unregu-

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[8] Assuming, of course, jurisdiction to prescribe such direct interconnection, which, in my view, the Commission lacks.

lated sectors of the economy, which do not necessarily retain their vitality in the regulatory context. *FCC* v. *RCA Communications, Inc.*, 346 U.S. 86 (1953); *Hawaiian Telephone Co.* v. *FCC*, 498 F2d 771 (D.C. Cir. 1974). But it is obvious here, since the Commission made no findings of how, why, or if, competition will benefit the public, even to the extent of not determining whether competition will result in higher or lower prices for telephone service, that it has regarded the relative positions of *competitors* as of paramount significance, rather than efficient service at reasonable rates to "all the people of the United States," as is its statutory obligation. This overpowering concern with competition to the exclusion of other public interest, of course, is a fundamental error of judgment on the part of the FCC, *Hawaiian Telephone Co.*, supra, especially when it may be in conflict with the statutory definition of the public interest as set out in 47 U.S.C. § 151.

On a more basic level, and what I now say applies in large extent to the whole case, the fundamental issue involved here may well require resolution by Congress, rather than the FCC, for Congress has determined that the public interest is better served in the field of telephone service by a regulated monopoly than by competition. See *RCA*, supra. The real issue this case resolves itself into is what the scope of that regulated monopoly is to be. Regardless of whether the production of terminal equipment is characterized by the same high fixed costs and economies of scale, indicative of a "natural monopoly," as is the construction of a telephone line network, Congress has prescribed a scheme of regulation that has traditionally included largely carrier-supplied terminal equipment. I believe it is ultimately for Congress to determine the extent to which direct regulation is to be supplanted by regulation through the forces of free competition.[9]

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[9] As *RCA* and *Hawaiian Telephone* indicate, competition is a factor to be considered, but it may not be considered to be the public interest in itself, when it is, as here, divorced

For these reasons, I would set aside the Commission's orders to the extent that they include carrier equipment. And I would retain the stay we earlier imposed upon the remainder of the registration program until such time as the Commission, on remand, makes an effort to gauge the economic impact of a regulatory regime that is likely for the first time truly to facilitate widespread customer substitution of equipment traditionally supplied by telephone carriers.

III

Once again for emphasis, it is the obligation of the FCC to see that telephone service to all at reasonable rates is provided. It is not its principal obligation to see that equipment manufacturers compete for the equipment market with the carriers. If such competition is for the advantage of the ordinary telephone subscriber, then who can gainsay it is not good public policy; but if not for such advantage, can it be said that the public interest is served?[10] The FCC has made a decision that will almost immediately affect the rates of practically every telephone subscriber in the nation without the remotest reasoned idea of how the total cost for telephone service will be affected.[11] I think this conduct quite irresponsible, not to mention arbitrary, capricious, an abuse of discretion, and not in accordance with law.

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from other public interest factors and absent ". . . ground for reasonable expectation that competition may have some beneficial effect." *RCA*, at 97.

[10] I generally equate the public interest with improved telephone service, either better, or cheaper, or both. See *RCA*, both the opinion of the court and the dissent.

[11] The only projections before the Commission point to higher rates.

FCC 75-1248

BEFORE THE

FEDERAL COMMUNICATIONS COMMISSION

WASHINGTON, D.C. 20554

Docket No. 19528

In the Matter of

PROPOSALS FOR NEW OR REVISED CLASSES OF INTERSTATE AND FOREIGN MESSAGE TOLL TELEPHONE SERVICE (MTS) AND WIDE AREA TELEPHONE SERVICE (WATS)

First Report and Order

(Adopted October 31, 1975; Released November 7, 1975)

BY THE COMMISSION: COMMISSIONER REID ABSENT; COMMISSIONERS HOOKS AND ROBINSON CONCURRING AND ISSUING STATEMENTS.

PRELIMINARY STATEMENT

1. The Commission has under consideration the Recommended First Report and Order of the Federal-State Joint Board (Joint Board) in this matter, together with its recommendation that we also consider the General Order establishing the California registration program. We also have before us the comments concerning these proposals which we requested interested persons to file in our Memorandum Opinion and Order released May 27, 1975 (53 FCC 2d 219).

2. Timely comments were filed by Ad Hoc Telecommunications Committee, Adcor Electronics, Inc., American Petroleum Institute, American Telephone and Telegraph Company (AT&T), Association of American Railroads, Association of Data Processing Service Organizations, California Public Utilities Commission, Communication Certification Laboratory, Computer and Business Equipment Manufacturer's Association, Continental Telephone Corporation, DASA Corporation, Dictaphone Corporation, Electronic Industries Association, Executone Communica-

tion Systems, The GTE Companies, Independent Data Communications Manufacturers Association, International Business Machines, National Telephone Cooperative Association, National Retail Merchant's Association, North American Telephone Association, North Carolina Utilities Commission, Office of Consumer Affairs by Virginia H. Knauer, Phonetele, Inc., Public Utilities Commission of Ohio, Rochester Telephone Company, Rollings Protective Service Company, Scott-Buttner Communications, Sentry Technology, Inc., T.A.D. Avanti, Inc., United States Department of Justice, United States Independent Telephone Association, and Utilities Telecommunications Council. In addition we have received approximately two hundred letters addressing this subject.

3. We also received Reply Comments filed by Phone Mate, Inc., an Opposition to the Reply Comments of Phone Mate, Inc. filed by AT&T, a Petition for Leave to File Further Comments and Further Comments filed by the Ohio Public Utilities Commission, Motion for Acceptance of Late Filing and Comments of New York Public Service Commission, Supplemental Comments filed by the Computer and Business Equipment Manufacturer's Association, and Supplemental Comments filed by International Business Machines. While we only provided for the filing of comments in our Memorandum Opinion and Order, *supra*, and made no provision for the filing of any further comments, we believe the subject before us to be of such significance that we have accepted such late filed comments and further comments to assist us in determining our course of action.

4. GTE Service Corporation has filed a motion requesting that the Commission establish certain additional procedural dates or meetings for the purpose of obtaining comments on AT&T's Authorized Protective Connecting Module program. Continental Telephone Corporation filed Comments supporting this motion. AT&T has also filed a motion requesting us to institute further proceedings to

explore the option of allowing connection of terminal equipment through discrete protective modules. In view of the action we are taking herein, we perceive no necessity for the procedures or meetings GTE Service Corporation and AT&T have requested, since in accordance with our Memorandum Opinion and Order released November 5, 1974, 49 FCC 2d 580, we have considered AT&T's Authorized Protective Connecting Module program within the context of Docket No. 19528. In this regard we also believe the record in this matter suffices for our deliberations and that oral argument is neither necessary nor helpful in this matter.

5. The Commission also has pending before it (1) a Petition filed December 27, 1973, by the North American Telephone Association For Amendment of Procedures, Issuance of a Notice of Proposed Rule Making and Establishment of Interim Procedures relative to the interconnection of customer-provided terminal communication equipment and systems and (2) a Motion filed September 26, 1974, by the Computer and Business Equipment Manufacturers Association for Separation of Issues and for an Order Authorizing a Program of Direct Interconnection of Customer Owned Data Terminal Equipment and Ancillary Telephone Equipment. In view of the action we are taking herein, we will dismiss these pleadings as moot.

BACKGROUND

6. This Commission and the courts have consistently enunciated the subscriber's right to make beneficial use of an interconnected device or communications system without causing harm to a telephone company's operations. On remand in *Hush-A-Phone*,[1] the Commission enunciated the following broad principle of law and policy:

In addition to invalidating the defendants foreign

[1] *Hush-A-Phone Corp.* v. *U.S.*, 99 U.S. App. D.C. 190, 238, F. 2d 266 (D.C. Cir. 1956).

attachment tariff regulations insofar as they bar the use of the Hush-A-Phone device, an inescapable consequence of the Court's opinion is to render such tariff regulations unjust and unreasonable *insofar as they may be construed or applied to bar a customer from using other devices which serve the customer's convenience in his use of the facilities furnished by the defendants and which do not injure the telephone companies' employees or facilities, or the public in the use of defendants' services, or impair the operation of the telephone system. As we construe the Court's opinion, a tariff regulation which amounts to a blanket prohibition against the customer's use of any and all devices without discriminating between the harmful and harmless encroaches upon the right of the user to make reasonable use of the facilities furnished by the defendants.* Such a regulation goes beyond what is reasonably required in the interest of protecting the defendants' employees, facilities, the telephone system and the public from adverse effects. (emphasis supplied) 22 FCC 112, 113-114 (1957)

7. Relying on the holding *Hush-A-Phone, supra,* we found in *Carterfone*[2] that a device used to interconnect mobile radio systems to the interstate and foreign message telecommunications system filled a need, that its use did not adversely affect the telephone system, and that the AT&T tariff prohibiting its use was unreasonable and unlawful within the meaning of Section 201(b) of the Communications Act of 1934. In making it clear that our *Carterfone* decision was not limited to the Carterfone device *per se,* but was rather a broad general policy, we stated:

In view of the unlawfulness of the tariff there would be no point in merely declaring it invalid as applied to the Carterfone and permitting it to continue in

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[2] *Carterfone,* 13 FCC 2d 420 (1968), reconsideration denied, 14 FCC 2d 571 (1968).

operation as to other interconnection devices. This would also put a clearly improper burden upon the manufacturers and users of other devices. The appropriate remedy is to strike the tariff and permit the carriers, if they so desire, to propose new tariff provisions in accordance with this opinion. 13 F.C.C. 2d 420, 425

8. We further held that this broad *Carterfone* policy applied equally to devices which had direct electrical connections.[3] We noted that AT&T considered this to be a special category but had not clearly demonstrated the basis for this exception[4] (14 F.C.C. 2d 571, 573 (ftn. 4)), and went on to comment:

> The primary contention upon reconsideration is that our decision permits the use of a myriad of customer-provided devices for interconnection without adequate exploration of the technical and economic problems. This record convinces us that there can be interconnection without harmful technical effects. With respect to possible economic effects from the interconnection of private systems—"the piecing out of common carrier services with unregulated systems"—no substantial effort was made on this record to demonstrate any harm from the interconnection of private mobile radio systems, and we therefore had no occasion to address ourselves to that question. We agreed that economic effects upon the carriers' rate structure might well be a public interest question. But it is an issue, if a carrier seeks to raise it, to be decided upon the facts, i.e., will there be a "cream skimming" effect, what will be the extent of it, and how does it weigh against the benefits of interconnection. *As is the case with the question of technical harm, a tariff is unreasonable if*

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[3] *See ITT* v. *General Telephone and Electronics Corp.*, 518 F. 2d 913, 933 (9th Cir. 1975).

[4] *See Phonetele, Inc.* v. *California Public Utilities Commission*, 11 C. 3d 125, 520 P. 2d 400 (1974).

it assumes a priori a conclusion as to such an issue. (emphasis supplied) (footnotes omitted). 14 F.C.C. 2d 571, 572-573.

9. We did not prescribe the terms of the tariff revisions required to satisfy the *Carterfone* policy, but left that to the initiative of the telephone company. AT&T filed new and revised tariffs and subsequent amendments on behalf of itself and concerned interstate carriers, which allow the interconnection of customer-provided equipment (1) through the use of carrier-supplied connecting arrangements subject to certain technical requirements, and, if required, network control signalling units; (2) in accordance with a carrier-administered attestation program for headsets and non-powered conferencing devices; and (3) in accordance with a carrier-administered program for conforming answering devices.

10. The *Carterfone* Decision placed the burden of proof squarely upon the carriers—not the users or this Commission—to demonstrate that a particular unit or class of customer-provided equipment would cause either technical or economic harm to the telephone network, note 4, *supra;* this burden was to be met *prior* to the filing of a tariff restricting the use of such equipment. The information accompanying the tariff revisions filed pursuant to *Carterfone* did not demonstrate that the direct electrical connection of all customer-provided equipment would cause harm unless accomplished through the carrier-supplied connecting arrangements provided for in the tariff. At best, it simply reflected one manner in which to protect the network. It was not even argued that this protection was the minimum protection required or the most cost effective. Nevertheless, the Commission, exercising an abundance of caution in protecting the telephone network from any possible harm, allowed the tariffs to become effective without ruling explicitly on their lawfulness.[5]

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[5] ***AT&T "Foreign Attachment" Tariff Revisions,*** 15 FCC 2d 605 (1968), reconsideration denied, 18 FCC 2d 871 (1969).

11. At the same time, the Commission instituted informal proceedings to obtain technical and operational data to assist its evaluation of the public interest factors involved in liberalizing the network control signalling unit and connecting arrangement provisions of the revised tariffs. Contracts to study these possible revisions were issued to the National Academy of Sciences and Dittberner Associates, and their subsequent reports together with comments from interested parties indicated that consideration should be given to revisions in MTS and WATS offerings under a program that would protect the telephone network from four types of harm: (a) hazardous voltages; (b) excessive signal power levels; (c) improper network control signalling and (d) line imbalance. Thereafter, the Commission created two advisory committees, pursuant to Executive Order 11007, to study the possibilities of initiating such a standards program for selected classes of equipment such as (1) customer-provided PBX's and (2) automatic dialers and recording and answering devices.

DOCKET NO. 19528 PROCEEDINGS

12. On June 14, 1972, the Commission instituted this proceeding by Notice of Inquiry and Proposed Rule Making, 35 FCC 2d 539 (1972), to determine whether and under what terms, conditions, or limitations the interstate MTS and WATS tariffs should be revised to allow customers to have the option of furnishing any needed network control signaling units and connecting arrangements (or the functional equivalent thereof), and to determine what rules, if any, the Commission should adopt with respect to the foregoing. In addition, a Federal-State Joint Board was established pursuant to Section 410 of the Communications Act of 1934, as amended, to submit its recommendations to the Commission concerning this matter.

13. In our First Supplemental Notice in Docket No. 19528, 40 FCC 2d 315 (1973), we questioned whether, at that time, it was feasible from a technical, engineering,

operational and administrative viewpoint to establish an optional program in lieu of or in addition to the present tariff requirements for carrier-provided network control signalling units and connecting arrangements and requested comments concerning a number of reports and proposals. These reports and proposals include: (1) the report and recommendations of the PBX Standards Advisory Committee; (2) the proposal of the Office of the Chief Engineer of this Commission; and (3) the proposal of the National Association of Regulatory Utility Commissioners (NARUC) Staff Subcommittee Report on Communication Interconnection. In addition to these specific proposals, we also invited comments concerning other alternatives such as: (1) the Rochester Telephone Company's NPD program; (2) the establishment of standards by the carriers and the incorporation of such standards in tariffs or technical references with the carriers being responsible for the program's enforcement; and (3) leaving the tariffs unchanged but requiring the carriers to improve their services and applying the same practices to both carrier and customer-provided facilities. The Joint Board we convened in this matter has reviewed these comments and issued its Recommended First Report and Order which is presently before us for consideration.

14. The Joint Board has proposed that customer and carrier-provided ancillary and data terminal equipment be directly connected to the telecommunications network if it is registered with the Commission under a program similar to this Commission's existing type acceptance program for radio transmitting equipment. The proposed plan is to apply to all terminal equipment other than PBXs, key telephone systems, main telephones, extension telephones and coin telephones. Registration is to be based on representations and test data submitted by an applicant to the Commission. If the representations and test data concerning a particular device are found to comply with specific interface criteria and other requirements and the Commission determines

that it is in the public interest, convenience and necessity, such device would then be registered. The Joint Board proposal would require each device to have affixed to it installation, maintenance and operating instructions, and would allow connection of registered devices to the network to be accomplished through the use of standard plugs, jacks and other simple arrangements as provided in tariffs.

15. The California Public Utilities Commission in its General Order No. 138 has adopted rules permitting the direct attachment to the telecommunications network of customer-provided ancillary and data terminal equipment and of protective couplers where they have been certified by a registered electrical engineer qualified in the field of communications equipment. The program applies only to customer-provided equipment, not to carrier-provided equipment. Certification is based on the registered engineer's examination of the design and operating characteristics of the device, the manufacturer's quality control procedures, and the servicing. The test standards and enforcement procedures regarding these factors are not specified in the plan, but are left to the discretion of the registered engineer. After being granted a registration number, the manufacturer must keep records of his quality control procedures, and these records are to be examined annually by the certifying engineer. Further, manufacturers or vendors must offer a maintenance contract with all certified equipment.

16. We have given careful consideration to American Telephone and Telegraph Company's (AT&T) connecting arrangement program (AT&T Tariff F.C.C. No. 263, Sections 2.6.4(A) (1), (2) and (3); 2.64(B)(1); 2.64(D)(1)(a)),[8] AT&T's manufacturer attestation program for customer-provided headsets and non-powered conferencing equipment (Tariff 263, Section 2.64(E)),[8] AT&T's con-

[8] Similar tariff provisions appear in other sections of Tariff 263 (MTS) as well as Tariff 259 (WATS).

formance program (APCM program) for answering devices (Tariff 263, Section 2.6.4(F)),[6] the Rochester Telephone Company's NPD program (Tariff 263, Section 2.9), the reports of the National Academy of Sciences and Dittberner Associates, the various reports of the several advisory committees and subcommittees, the recommendations of the Federal-State Joint Board, the California registration program, and all the comments of the many parties who have participated throughout the various stages of the proceedings herein. In addition, we have noticed other reports and materials, and where such were used in arriving at our findings they are so noted. In the seven years which have elapsed since our *Carterfone* ruling, the carriers have been afforded ample opportunity to propose effective procedures and/or tariff conditions to prevent harm without unduly restricting a customer's basic right to make reasonable use of the facilities and services furnished by the carrier. This the carriers have failed to do (with the possible exception of non-powered conferencing devices, headsets and conforming answering devices). The evidence before this Commission amply demonstrates that many "special" entities (e.g., gas, oil, electric, and transportation companies, selected industrial firms, the Department of Defense, the National Aeronautics and Space Administration, and customers in "hazardous or inaccessible locations") have long been and continue to be allowed to connect their equipment and facilities directly to the telephone network by means less restrictive than carrier-provided connecting arrangements (Tariff 263, Sections 2.7.5, 2.7.6, 2.7.7 and 2.7.8) apparently without causing harm to the network. We also note that there has been no demonstration of network harm resulting from the interconnected operation of some 1600 independent local telephone companies and the Bell System (including small rural, municipal, and co-op systems)—many of whom purchase and connect without benefit of carrier-supplied connecting arrangements the identical independently manufactured terminal equipment for which the individual user must lease carrier-supplied connecting arrangements. Ac-

cordingly, in view of our findings in this proceeding concerning the mechanisms which can cause technical harm and effective means for preventing such harms, the Commission has now reached three separate and independent conclusions. First, the present tariff provisions requiring the use of carrier-supplied connecting arrangements impose an unnecessarily restrictive limitation on the customer's right to make reasonable use of the services and facilities furnished by the carriers. Second, they constitute an unjust and unreasonable discrimination both among users (or classes of users) and among suppliers of terminal equipment. Third, the standards and procedures prescribed herein for the registration with this Commission of protective circuitry and/or terminal equipment will provide the necessary minimal protection against network harm which has been specified in various carrier operating procedures and/or the recommendations of the Joint Board, the California PUC, the NAS and Dittberner studies, and the Commission's interconnect advisory committees, and will serve the public interest. Equipment containing the appropriate FCC registered protective circuitry, or FCC registered terminal equipment, may, following the effective date of this Order, be connected directly with the telephone network pursuant to the procedures set forth in these rules, without benefit of carrier-supplied connecting arrangements. Carriers may continue to provide such connecting arrangements, if registered, and may require their use for equipment not registered with the FCC or not used in conjunction with appropriate FCC registered protective circuitry. Except as herein provided, carriers may not require the use of such connecting arrangements or other interface devices or arrangements for FCC registered equipment or protective circuitry, and may not impose other tariff conditions contrary to the *Carterfone* policy without prior approval of the Commission.

THE FCC REGISTRATION PROGRAM

17. The program which we are adopting was designed with the goals of (1) protecting the public switched tele-

phone network from harms which might be caused by connection of terminal equipment to the network and (2) keeping the program as simple and easy to administer as is reasonably possible with a minimum of government intervention. Basically the program allows users to connect any terminal equipment to the telephone network if such equipment is connected through protective circuitry registered with the Commission or if such equipment is itself registered with the Commission. The option of registering only discrete protective circuitry rather than the entire terminal equipment will (1) eliminate unnecessary documentation relating to total system design and performance criteria. (Even for complex terminal equipment and/or systems, this option will require documentation relating only to the discrete protective circuitry.); (2) remove the need for filing proprietary information, thus eliminating the need to establish cumbersome procedures for handling such information; (3) allow users and manufacturers greater flexibility in satisfying the requirements of our registration program through the separate purchase of protective circuitry, if desired; and (4) enable us to administer our registration program with an absolute minimum of expense to both the government and private industry—to the benefit of the ultimate users—while at the same time protecting the public switched telephone network from harms which could be caused by the connection of faulty terminal equipment.

18. As noted above, the Federal-State Joint Board recommended that PBXs, key telephone systems, and main station, extension and coin telephones be excluded from the registration program at this time, thus requiring that these devices continue to be interconnected with the network via carrier-provided connecting arrangements. In this respect the Joint Board plan differed from that proposed in 1972 by the FCC's Office of the Chief Engineer, although the Joint Board largely adopted the Chief Engineer's proposal. Many parties have urged that some or all of these classes of

terminal equipment be included, and point to the Joint Board's failure to provide any basis for such proposed exclusion. While it did not explicitly so state, we believe the Joint Board's recommendation to defer inclusion of these devices was based primarily on technical concerns relating to the more complex network control signalling functions performed by some of these devices. In view of the clarification of network harms; the delineation of the roles, responsibilities and incentives of the various parties in protecting against these harms; and the registration standards and procedures contained herein, we believe that many if not all the technical concerns reflected in the Joint Board's exclusion of these equipment classes have been mooted. With this clarification, we are tentatively of the view that there is no valid distinction as to the potential for harm from any of the excluded classes of devices. However, since all parties may not have considered it necessary fully to address the inclusion of PBX's, key telephones, and main stations at this time, in view of the Joint Board's recommendation, we shall afford interested parties an opportunity to comment further on the inclusion of these classes of equipment. Accordingly, PBX's, key telephone systems, main station telephones, coin telephones, and equipment connected to party lines [7] will be excluded from the registration program established herein, pending further order of the Commission.[8]

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[7] Since we do not now have interconnection criteria for party line service, we will, in the meantime, allow customer-provided terminal equipment to be connected through carrier-provided connecting arrangements as is now done under presently effective tariffs. Coin telephones are excluded because, under present regulatory policies, only telephone carriers may provide coin telephone service.

[8] While the rules proposed by the Joint Board listed extension telephones in the equipment to be excluded from the registration program at this time, we conclude that extension telephones properly fall within the category of "ancillary" devices included in the Joint Board recommendation. The record supports our view that there is no valid technical dis-

19. Several of the parties to this proceeding have suggested that it would be inappropriate to adopt new policies concerning interconnection prior to collection and evaluation of the pertinent data filed in Docket No. 20003 concerning the economic effects of such interconnection. Recognizing that Docket No. 20003 constitutes a broad fact-finding investigation of the economic implications and interrelationships among a number of industry developments, policies, and practices—some instituted pursuant to regulatory policy, others carrier-initiated—we previously held that "the commencement of the notice of inquiry in Docket No. 20003 does not necessarily preclude further action in Docket No. 19528."[9] In short, the Docket No. 20003 inquiry is not to become a "dumping ground" for existing docketed proceedings. Consistent with *Carterfone, supra,* as well as the more recent decision in *Mebane,* 53 F.C.C. 2d 473 (1975), we will afford any carrier the opportunity to demonstrate the need to restrict specific instances or classes of interconnection on the grounds of economic harm, and will continue to examine the broad, long-term and interrelated implications of interconnection, jurisdictional separations, and rate structures in Docket No. 20003. The present decision relates only to the requirements which interconnected devices must satisfy in order to avoid technical harm to the telephone network. In view of our findings in paragraph 16 above, we believe that the public interest would be best

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tinction between extension telephones and other "ancillary" devices. Because the standards adopted herein are equally applicable to extension telephones and because inclusion of extension telephones does not represent a significant departure from the Joint Board's recommendations, we feel that the public interest is best served by the prompt inclusion of extension telephones within the scope of our registration program.

[9] *Economic Implications Relating To Customer Interconnection, Jurisdictional Separations, and Rate Structures,* Docket No. 20003, 49 F.C.C. 2d 1238, 1240 (1974).

served by the prompt implementation of our registration program.[10]

20. The carriers have argued that, as they have every incentive as well as the technical and operational means to maintain a high quality service, a registration program for carrier-supplied equipment is unnecessary, and may impose additional expenses on them which must ultimately be borne by the telephone user. We do not question the carriers' dedication to high quality service, nor their desire and ability to protect the network from any harms which might be caused by carrier-supplied equipment. However, we note that carrier-supplied terminal equipment possesses the same *potential* for harm to the network as does customer-supplied equipment—particularly in view of the fact that much carrier-supplied equipment is purchased from independent manufacturers who market identical equipment to the general public. We also expect that the information provided by the carriers in their registration applications will be of considerable aid to the Commission as a benchmark against which other applications may be judged. Furthermore, when one participant in a competitive market is subject to regulatory constraints (e.g. registration of equip-

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[10] Our *Carterfone* policy has permitted the public to utilize various types of equipment with the public communications network. It is our firm belief that public benefits have resulted from this policy. The purpose of Docket 19528 is not to revisit *Carterfone* but rather to review the present limitations imposed on the attachment of equipment to this network. Thus, issues relating to the potential overall economic impact of the *Carterfone* policy are beyond the scope of this proceeding. The potential economic consequences of *any* decision in this proceeding are minimal, since they affect only the differential costs and revenues associated with customer-provided vis-a-vis carrier-provided protective circuitry and procedures—not with the terminal device *per se*. In view of this we would expect that the parties in commenting on PBXs, key telephone systems, and main station telephones would limit their arguments to relevant matters and not to the basic policy decision enunciated in *Carterfone*.

ment) while another is not, there exists the possibility of using the registration, notification, and complaint standards and procedures for competitive advantage. In a related proceeding, the Courts have already commented on such a situation;[11] and the carriers themselves have made the same argument in similar circumstances. These countervailing considerations require a careful weighing to ascertain wherein the overall public interest rests. On balance, and particularly in view of the relatively straightforward and inexpensive registration program we envision, we believe the public interest will best be served by requiring the carrier-supplied terminal equipment be registered, and consistent with the Joint Board recommendation we shall so order. However, we plan to reexamine the situation within the first year of operation of this registration program to determine whether the public benefits of requiring registration of carrier-provided equipment continue to outweigh any costs resulting therefrom, and to rule accordingly.

Technical Requirements

21. The National Academy of Sciences, in its 1970 report to the Commission, identified four areas of potential "harm" which might arise as a consequence of permitting uncontrolled direct connection of equipment to the telephone network: (1) hazardous voltages, (2) excessive signal power levels, (3) excessive longitudinal imbalance, and (4) improper network control signaling. The National Academy of Sciences reported that the carrier-provided protective connecting arrangements protected against such "harms" within the boundaries of acceptableness regardless of the design of particular equipment connected thereto. Our program adopts a similar approach. We have specified the boundaries which may not be exceeded in each of hazardous voltage, signal power and longitudinal imbalance. Without requiring any particular circuit design to be employed, we have required that the design of registered terminal

[11] *Hush-A-Phone* v. *U.S.*, 238 F. 2d 266, 268-69 note 9 (D.C. Cir. 1956).

equipment and registered protective circuitry assure that these boundaries are not exceeded, and will continue not be be exceeded, under foreseable usage and mechanical and electrical stress. Registered protective circuitry is required to provide assurance of conformance to our interface requirements regardless of the particular equipment connected thereto and regardless of what failure modes such equipment may manifest. Registered terminal equipment is required to provide such assurance under all foreseeable failure modes of such registered terminal equipment and of equipment expected to be connected thereto. Such assurance may be provided either by incorporating protective circuitry in the registered terminal equipment, or, alternatively, by virtue of a design which precludes violation of the boundary constraints.

22. With the exception of on-hook impedance, we do not believe it is necessary to impose standards upon network control signaling. We are not persuaded that individual violations of criteria on compatible network control signaling will have any significant effect upon the telephone service of other telephone network users. Improper network control signaling will most directly affect the telephone service of the user of equipment which generates improper network control signals. A user thus has no incentive to generate improper network control signals, as he will only decrease the utility of his own telephone service by so doing (e.g. fail to receive telephone calls, be unable to generate telephone calls, or reach wrong numbers); thus we feel that any problems which may arise will be self-correcting. We would note that the present telephone company-provided connecting arrangements do not fully protect against improper network control signaling,[12] and that since such connecting arrangements were first offered in 1969, the carriers have not increased the level of protection against

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[12] *See* Docket No. 19419 Tr. 3980-85; 3987-93; 4328-29; 4546-50; 4552-54; 4561-65; 4969-73. Testimony of L. Hohmann. Tariff F.C.C. No. 263, § 2.6.3.

improper network control signaling provided by their connecting arrangements. From this we conclude that improper network control signaling has not been a significant problem to the carriers, and that the presently-effective approach of specifying proper network control signals in the tariffs, and in informational materials ("Technical References") distributed to equipment manufacturers has been effective, and has provided the requisite protection. We encourage the carriers to continue to provide informational materials to equipment manufacturers and others concerning network control signaling,[13] and commend the reports of our advisory committees on PBXs, telephone answering devices and telephone dialers to the attention of equipment manufacturers as one source of such information.

23. Should improper network control signaling proliferate on the telephone network, the point could be reached where telephone facilities which are shared among many network users (e.g. central office equipment, trunks, etc.) would be nonproductively engaged in reaching wrong numbers, and incompleted calls, etc., which would degrade the overall service quality. While we are convinced that such a situation will not arise, due to the self-correcting mechanisms previously noted, we would be receptive to amending our rules at any time to include evaluation of network control signaling functions of registered terminal equipment and registered protective circuitry, or to provide for manufacturer attestation of compatibility, should evidence to the contrary become available.

24. The technical requirements pertaining to registered terminal equipment and registered protective circuitry are contained in Subpart D of Part 68, and are explained in the following paragraphs. The term "reasonable application of

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[13] Section 68.110(a) imposes the requirement that the carriers supply compatibility information upon request; to the extent that such informational materials effect compliance with this rule, no additional action by the carriers will be necessary.

earth ground," which appears in several of the rules in Subpart D, deserves particular note. Because the connection of earth ground to registered terminal equipment and registered protective circuitry may cause noncompliance with several of the technical requirements, it is important that such registered terminal equipment and registered protective circuitry be properly insulated and isolated from any "reasonable application of earth ground." In evaluating equipment, the following guidelines should be followed:

a. For protective circuitry, "reasonable application of earth ground" shall include physical contact of all exposed surfaces of the circuitry with a conductor connected with earth ground, and of physical contact of each non-telephone line connection with a conductor connected with earth ground, and with all possible combinations thereof;

b. For terminal equipment, "reasonable application of earth ground" shall include all reasonably foreseeable possibilities whereby earth ground may become connected with such equipment, including the possibility of physical contact of all exposed surfaces with a conductor connected with earth ground, the possibility of connection with earth ground of each power-line connection, and the possibility of connection with earth ground through foreseeable connection with other equipment.[14]

25. *Environmental Stress Simulation.* Registered terminal equipment and registered protective circuitry will be subjected to various environmental conditions during shipment and usage, and accordingly we have required, in Section 68.302, that harm does not arise in registered equipment either prior to, or after the application of therein-specified stresses.

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[14] Foreseeable additional connection, must include all expected possibilities, such as accessory sockets (e.g. an earphone jack).

26. The specified requirements on vibration, temperature and humidity cycling are directly in accord with the requirements on such cycling presently effective for conferencing devices, and are similar to those employed for Authorized Protective Connecting Modules (APCMs) used with answering devices, both of which equipment classes are presently directly connected with telephone facilities.[15]

27. The specification of the metallic voltage surge parameter is derived from two presently-effective programs. The requirement imposed on conferencing devices is that a 1000 volt peak surge, having a 10 microsecond rise time to crest and a 1000 microsecond decay time to half crest be applied to the tip and ring telephone connections during the off-hook state.[16] The requirement applied to APCMs is defined in terms of a test circuit which applies similar surges.

28. Various specifications of the longitudinal voltage surge parameter were suggested to us. The requirement imposed on conferencing devices is that three 2500 volt peak surges of each polarity, having a 1.2 microsecond rise time to crest and a 50 microsecond decay time to half crest be applied between all telephone connections, connected together, and earth ground, under all reasonable conditions of connection of the terminal equipment with earth ground. The Joint Board recommended the use of such a surge only where external power is supplied to terminal equipment.[17] Our answering device committee recommended that such a specification be applied to power-line connections of that type of terminal equipment (and further recommended that testing be conducted in stages—first by pulsing at 500 volts,

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[15] Similar requirements are recommended in our advisory committee reports, and in such reports detailed instructions on specific implementing tests are contained.

[16] This specification was also contained in our advisory committee report on answering devices.

[17] Section 68.304(b) of the Recommended First Report and Order of the Federal-State Joint Board.

then 1500 volts and finally at 2500 volts). The similar specification for APCMs is defined in terms of a test circuit which charges a 0.1 microfarad capacitor to 2500 volts, and which then discharges that capacitor through a 60 microhenry coil (dc resistance less than 2.0 ohms) to the tip and ring connections of the terminal equipment, across which is connected a resistance of approximately 132 ohms. Such a circuit applies a longitudinal voltage surge of approximately 2 microseconds rise time to crest and 10 microseconds decay time to half crest to the APCM under two conditions of test: first, with the non-telephone connections grounded and the pulse applied to the telephone connections, and second, with the telephone connections grounded and the pulse applied to the non-telephone connections. In both tests, ground connections are made through a 14 microhenry coil, and the current through this coil is required to be less than 0.3 amperes, peak.

29. The purpose of stressing terminal equipment with longitudinal surges is to determine whether such equipment will continue to conform to our technical requirements if it is subjected to a voltage surge resulting from lightning. Since lightning may affect either an exposed telephone connection, or an exposed power connection to the terminal equipment, the APCM techniques of requiring testing by simulating a lightning caused voltage surge on both sets of connections has merit, and we have adopted this approach. Thus, our rule requires that 2500 volt peak surges of each polarity, having a 2 microsecond rise time to crest and a 50 microsecond decay time to half crest (formed as the worst-case combination of the APCM and other specifications) be applied *first* between the telephone connections and earth ground, under all possibilities of connection of the equipment with earth ground, and *second* between each power line connection and earth ground, and between each conductive surface on the exterior of the equipment and earth ground, with the telephone connections individually, and in combination, connected to earth ground.

30. *Leakage Current Limitations.* Registered terminal equipment and registered protective circuitry are required to be adequately insulated, to protect against telephone facilities becoming connected with power-line energy (hazardous voltages) and earth ground (longitudinal imbalance). While it is desirable to maintain perfect insulation between the telephone connections and power-line and/or ground, such insulation must be specified in terms of leakage current under the application of test voltages. We have had various specifications of such leakage current recommended to us.

31. The Joint Board recommended that 1500 volts, 60 Hertz, be applied to all possible combinations of interface leads, power leads, exposed conducting surfaces and common circuit ground and that the leakage current resulting therefrom be limited to 2.5 milliamperes, rms,[18] only in the case of equipment which is externally powered. California has required that leakage current in each of two test cases be limited to 2.5 milliamperes: (1) when 1500 volts is applied between telephone connections and power connections, and between power connections and exposed surfaces, and (2) when 1000 volts is applied between telephone connections and exposed surfaces.[19] In addition, California independently requires that power transformers have a voltage breakdown rating greater than 1500 volts between primary and secondary and between the transformer windings and (chassis) ground.[20]

32. The requirement on conferencing devices[21] is that leakage current from the telephone connections, strapped

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[18] Joint Board First Report and Order, Sections 68.304(c) and (d).

[19] California General Order No. 138, Section 5.4(c).

[20] *Ibid.*, Section 5.3(a).

[21] Section 6.3.2 of Bell System Voice Communications Technical Reference, PUB 45101, "Interface Specification 2001 (Non-Powered Conferencing Devices)", May 1973.

together, to exposed conductive surfaces (on the housing) and earth ground be less than 2.5 milliamperes under the application of 1000 volts, rms, 60 Hertz between the points under test (the specific test required is to gradually increase the test voltage from 0 to 1000 volts over a thirty second time period, apply the full 1000 volts for one minute, and then determine the leakage current after this 1½ minute time interval). The APCM specification separately tests the dielectric insulation on the APCM's internal isolating transformer, and the APCM's housing insulation. In the first case, 750 volts, rms, 60 Hertz is applied for sixty seconds between the telephone connections (connected together) and earth ground, with all non-telephone connections and conductive surfaces on the housing of the APCM also connected to earth ground, and the leakage current is required to not exceed 0.5 ma, rms. In the second case, 1500 volts, rms, 60 Hertz is applied for sixty seconds between the telephone and non-telephone connections (all connected together) and earth ground, with conductive surfaces on the housing of the APCM also connected to earth ground, and the leakage current is similarly required to not exceed 0.5 ma, rms.

33. Our answering device committee recommended two separate requirements: first, that leakage between the telephone connections (connected together) and power connections not exceed 2.5 ma, rms., under the application of 1500 volts, rms, 60 Hertz, and second, that leakage between the telephone connections and all exposed conductive surfaces on the housing of such terminal equipment not exceed 2.5 ma, rms, under the application of 1000 volts, rms, 60 Hertz. Finally, our dialer committee recommended a slightly modified version of the answering device committee's specification whereby leakage current is required to not exceed 2.5 ma, rms, first, between the telephone connections and earth ground, and second, between the power connections and earth ground, under the application of 1000 volts, rms, 60 Hertz and 1500 volts, rms, 60 Hertz, respectively. The

dialer committee also recommended that the 1500 volt test requirement be dispensed with for equipment not connected to an external source of power.

34. The only case of a leakage current specification lower than 2.5 ma, rms, having been employed has been the APCM specification. AT&T's use of the 2.5 ma, rms, specification for conferencing devices (which predates the answering device tariff exception), as well as the consistent use of this figure by our advisory committees and by the Joint Board and California, convinces us that 2.5 ma, rms, is a reasonable leakage current limit. As the Joint Board's requirement of determining leakage current under the application of 1500 volts, rms, for all possibilities of leakage current (power line to telephone connections, power line to exposed conductive surfaces, and telephone connections to exposed conductive surfaces) is inclusive of possible lower test voltages for some of these leakage current paths, we are adopting the Joint Board's uniform use of 1500 volts, rms, for evaluation, with the proviso that leakage current tests be performed on terminal equipment regardless of whether it is connected to an external power source.

35. *Hazardous Voltage Limitations.* Section 68.306 sets forth "fail safe" requirements on hazardous voltage. The stated limits are generally employed throughout the telephone industry as voltage limitations below which special protection of telephone craft personnel is not required. Equipment must be designed to avoid the application of voltages exceeding these limits under normal operation, since our other technical rules specify that permissible metalic ac voltages in normal operation, are defined by the signal power limitations (which are on the order of one volt, rms). The hazardous voltage limits are worst-case equipment failure limitations, and evaluation of equipment for compliance with these limits requires an analysis of all foreseeable failure modes of the registered terminal equipment or registered protective circuitry, and of equipment which is reasonably expected to be connected thereto. Sub-

section (b) of this rule defines what we expect to be a worst-case failure mode of equipment which might be connected with registered protective circuitry—the application of commercial power line voltage. We have chosen to require evaluation of the effects of applying 220 volts, rms, to protective circuitry in recognition of the usage of such power in data processing installations and commercial wiring, and in the belief that power sources which are reasonably expected to be available at locations where registered terminal equipment and registered protective circuitry will be employed will not exceed 220 volts, rms.

36. The specific limits which we have chosen conform to the recommendations of our PBX Advisory Committee and to AT&T's statements in a pending proceeding, Docket No. 19419, wherein AT&T stated the limits it employs for voltages permitted on its telephone plant. In Docket No. 19419, AT&T testified that the allowable voltage levels for continuous ac voltages are 70 volts, peak,[22] and for continuous dc voltages the limit is 135 volts to ground.[23] Our PBX Advisory Committee has recommended the following voltage limits between telephone conductors: 71 volts, peak ac, 135 volts, dc, 142 volts, peak for combined ac and dc; and the following voltage limits between a telephone connection and ground: 71 volts, ac, 135 volts, dc, 71 volts, peak for combined ac and dc. We have specified voltage limits which conform to both the PBX Advisory Committee's recommendation, and to AT&T's statement, as follows: between telephone conductors: 70 volts, peak ac, 135 volts, dc, 140 volts, peak for combined ac and dc; and between a telephone connection and ground: 70 volts, peak ac, 135 volts, dc, 70 volts, peak for combined ac and dc.

37. *Signal Power Limitations.* Signal power in the 300–3995 Hertz band is required to conform to two different

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[22] "Peak" voltage is intended to mean one-half the peak-to-peak amplitude excursion of an alternating voltage waveform.

[23] Bell Exhibit No. 5 in Docket No. 19419, testimony of L. Hohmann.

criteria: (1) the three second averaged power, measured at a customer's premises is required not to exceed 1.00 milliwatt, and (2) the three second averaged power measured at a telephone company central office is required not to exceed 12 decibels below 1.00 milliwatt.[24] The first of these specifications is constant for all installations, whereas the second is variable, as different local loop attenuations will permit equipment at the customer's premises to apply differing maximum signal power levels at the premises without violating the central office power level limitation.

38. In the case of voice usage of the telephone network, the telephone companies have chosen to employ physical protection within their connecting arrangements only against violations of the first criterion above, i.e. the 1.00 milliwatt limitation measured at the customer's premises.[25] Since there has been no evidence of problems arising from this telephone company practice, our rule follows this approach.

39. The telephone companies have argued that data equipment does not necessarily use telephone facilities in the same manner as does voice equipment; i.e. that data signals do not follow the statistical patterns of voice signals and tend to present constant amplitude tones. They also argue that data signals of excessive power have a higher potential for causing loss of communications privacy of other telephone network users than would voice signals of similar excessive power, and that data users have some incentive to violate the power level limitations in order

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[24] Tariff F.C.C. No. 263. Message Telecommunications Service, Section 2.6.4.

[25] This has been done on the theory that due to the statistical nature of human speech, and disincentive to violate maximum power level requirements when humans are speaking, prohibitory language concerning the remaining power limitation which is contained within the tariffs, and in informational material distributed to equipment manufacturers ("Technical References") provides adequate protection.

to lower their data error rates. Data equipment manufacturers have argued that there is no incentive for users to exceed the power level limitations as degradation to their data communications service may result, and that the telephone companies' suppositions have not been substantiated.[26] We are taking no position as to the validity of these arguments, as this is at issue in a pending proceeding, Docket No. 19419. We note, however, that the carrier's present data access arrangements provide assurance of compliance with both sets of power limitations, the 1.00 milliwatt customer's premises limitation and the 12 decibel lower central office power limitation. Pending the outcome of Docket No. 19419, and expressly subject to the ultimate findings and conclusions which may be reached therein, we are establishing rules for connection of data terminal equipment which maintain the *status quo*. Our rules accept AT&T's proposals for dealing with data equipment signal power levels, as a practical and reasonable means of providing such protection.

40. A data equipment manufacturer is given the option of either designing its terminal equipment, or protective circuitry, to assure that data signal power levels do not exceed a universal, fixed level of −4 dB with respect to one milliwatt, measurable at a simulation of the interface, or, if it wishes to optimize performance of equipment on each specific telephone line to which it may be connected, it has the option of designing terminal equipment, or protective circuitry, to assure that the data signal power level does not exceed the particular, unique level, which that telephone line permits without exceeding the −12 dB central office limitation. Again, following AT&T's proposal, we are adopting the requirement of using a design of such equipment or circuitry which is capable of responding to information which the carrier will provide as to the particular permitted signal power level for each telephone line to

[26] These arguments have been advanced both in this proceeding and in Docket No. 19419.

which the customer intends to connect data equipment. The carrier will determine the particular permitted power for each telephone line for which it receives notification that its customer intends to connect data equipment to a Programmable Data Jack, and will make appropriate connections in the Jack to communicate this information, automatically, to the data equipment, thereby removing the possibility of improper adjustment of the signal power. The specific evaluation required by Section 68.308(b)(2) assures that registered data terminal equipment, or registered data protective circuitry will appropriately respond to the information provided it by the Programmed Data Jack.

41. *Longitudinal Balance Limitations.* Section 68.310 sets forth minimum requirements on longitudinal balance. Longitudinal balance of terminal equipment depends upon the degree of balance of the impedance of the tip and ring connections of the terminal equipment to earth ground. Thus, evaluation of terminal equipment and protective circuitry designs for conformance to the longitudinal balance requirements must include consideration of all foreseeable possibilities of connection of such equipment and circuitry with earth ground.

42. We have received several different suggestions for an appropriate specification for longitudinal balance. The Joint Board and California recommended that each of the voltages on the two telephone connections (tip and ring) with respect to earth ground not differ by more than one percent, in the voice frequency band. Conferencing devices are required to maintain longitudinal balance, as given by the parameter we have defined in our "Definitions" section, greater than (120—20 $\log_{10}$ frequency) over the frequency range of 60 to 4000 Hertz, which is about 85 decibels at 60 Hertz and 48 decibels at 4000 Hertz.[27] Our answering devices advisory committee recommended that this same

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[27] Section 6.3.5. of Bell System Voice Communications Technical Reference, PUB 45101, "Interface Specification 2001 (Non-Powered Conferencing Devices)", May 1973.

balance parameter exceed 40 decibels over the 60 to 4000 Hertz frequency range, and specified a particular test circuit for determining balance in accordance with this parameter. Our PBX advisory committee also recommended a minimum balance of 40 decibels over the 300 to 3400 Hertz frequency range.

43. We are rejecting the specification advanced by the Joint Board which is ambiguous. This specification is stated in terms of percentage, without stating the base on which such percentage is to be computed. Proper design of equipment intended for connection to the switched telephone network requires that essentially no longitudinal voltage be applied by terminal equipment at the interface. The ambiguous specification employed by the Joint Board will not necessarily insure this.

44. The longitudinal balance parameter which we have defined has been used by our advisory committees, and by the telephone companies in setting requirements on conferencing devices. We have also defined the balance parameter in terms of a particular test circuit which may be applied to terminal equipment to further remove ambiguity. This test circuit was advanced by our answering device advisory committee in its report.[28] In our view, the answering device advisory committee's requirement of testing longitudinal balance with an applied longitudinal voltage of 12.5 volts, rms (that is, by applying equal voltages of 25 volts, rms, to tip and ring) is sound, as semiconductors which only enter the "active" state on the application of a sufficiently high test voltage will thereby be activated. The remainder of the advisory committee's test circuit flows from the definition of the balance parameter. Finally, we have adopted the balance requirement which the telephone companies have required of conferencing devices. Such devices are presently exempt from the general tariff re-

[28] *See* Section 5.10 of the Advisory Committee Report on Answering Devices, May 21, 1973.

quirement of connection solely through a protective connecting arrangement which prevents longitudinal imbalance from affecting a telephone line. The telephone companies' requirement on conferencing devices is a clear and unambiguous statement by them of what they consider acceptable. Thus, the longitudinal balance is required to exceed (120—20 $\log_{10}$ frequency) at all frequencies in the band 60 to 4000 Hertz.

45. *On-hook Impedance Limitations.* As previously noted, we are persuaded that protection against improper network control signaling is not generally required. However, there is a need to impose conditions on one aspect of network control signaling—the on-hook impedance. If a telephone call is made to a telephone line to which an excessively low impedance is connected, or to a telephone line which causes excessive dc current to flow during the application of a ringing signal, the called party's central office will immediately cause the ringing signal to cease. The calling party will hear no audible ringing tone (a "ringback" tone) and will assume that the call did not go through.[29] We are persuaded by the carriers' arguments that after several repeated tries to complete such a call, the caller will usually involve telephone company repair personnel. To prevent this non-productive use of telephone facilities, we are requiring assurance that on-hook impedances (the impedances presented to a ringing signal) are adequately controlled.

46. However, the particular permitted on-hook impedance on any given telephone line is variable, and depends upon such factors as the length of the line, the type of central office, and the electrical characteristics of the line (and in the case of PBX trunk connections, may depend on whether or not double-speed dialing is to be used). Normal telephone lines may be connected with one to five paralleled standard

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[29] *See* Bell Ex. 5 and Tr. 4004-05 in Docket No. 19419 for discussion of "pretrip" and "false trip" and the expected effects thereof.

telephone ringers, depending upon these factors. The telephone companies have dealt with this requirement by rating each telephone line for the maximum number of "ringing bridges", or paralleled standard ringing impedances, through the use of tables which account for the factors involved in such a determination.[30] When a telephone company customer requests that additional equipment be provided by the telephone company (including equipment such as a connecting arrangement), the telephone company determines whether the addition of such equipment will exceed the "ringing bridge" limitation on the customer's telephone line.

47. We have established a similar mechanism for all terminal equipment. Section 68.312(b) requires that a determination be made as to the equivalent number of standard telephone ringers (the Ringer Equivalence Number), which one unit of registered terminal equipment or registered protective circuitry represents.[31] The customer merely

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[30] Section 812-015-170 of the Bell System Practices, AT&T Company Standard, Issue 2, June 1972 "Ringing Ranges and Ringing Bridge Limitations for Lines in Dial Offices"; Section 471-100-040 of the General System Practices, GT&E Standard, Issue 1, January 1968 "Line Leakage and Ringing Bridge Limitations". Official notice of both of these documents is hereby taken.

[31] Figure 1 of Section 68.216(a) of the Joint Board's Recommended First Report and Order is an incorrect (and ambiguous) graph of a standard ringing impedance. This graph was first published by our answering devices advisory committee in its draft and final reports on requirements for such devices during 1973, and was (apparently) reproduced by the Joint Board. AT&T and GTE both maintained at the time of publication of the answering devices report, and in their comments on the Joint Board Report that the curve was incorrect, but until we informally requested that a correct curve be furnished, no such curve was supplied. In furnishing a corrected curve, AT&T and GTE indicated that in order to provide such information, they recently ran laboratory tests specifically to derive the correct curve.

adds the number of ringers which are connected to a telephone line to the Ringer Equivalency Number which will appear on the label[32] of registered terminal equipment or registered protective circuitry which he may wish to connect. The sum must not exceed the "ringing bridge" maximum which the telephone company specifies for his particular line. This technique imposes no additional record-keeping requirements on the telephone companies as it follows their already-established practices. At the same time, it provides some added flexibility to equipment manufacturers, as they are not limited to using the *same* impedances as the telephone companies' telephone sets now use—they may use higher impedances and thereby permit more equipment to be connected to a customer's telephone line.

48. Our specific test requirements are drawn from the telephone companies' submitted ringer impedance curves and from comments of the telephone companies on the answering device advisory committee's report. Since the telephone companies have provided us with magnitude-impedance versus frequency curves which were obtained through the use of a 10 volt, rms, test oscillator, we have similarly required that determinations of magnitude-impedance be made using a 10 volt source. The advisory committee report specified 1.5 ma as the maximum permitted dc current to be drawn by a ringing impedance during the application of a simulated ringing signal, and we have adopted this specification. As General Telephone and Electronics had commented that their central offices use ringing signals in the frequency range of 16⅔ to 66⅔ Hertz, and ringing voltages that might be as high as 75 volts dc superimposed on 100 volts, rms, we have adopted these parameters as an inclusive specification which is slightly more stringent than AT&T's use of 20 or 30 Hertz ringing signals at slightly lower voltages.

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[32] Section 68.300(a) of our rules requires that the Ringer Equivalency Number, determined in accordance with Section 68.312, be displayed on the equipment label.

Standard Plug and Jacks

49. Section 68.104 requires that, except for telephone company-provided ringers, all terminal equipment be connected to the telephone network through standard plugs and jacks. Telephone company-provided ringers are excepted so as to permit a customer to have a permanently connected ringer not subject to accidental disconnection. The general requirement for standard plugs and jacks is based on the assumption that any user will be able to plug in terminal equipment without special installation instructions or training. By imposing this requirement, we believe it is unnecessary to impose special requirements pertaining to installation of registered equipment.[33] We have purposefully declined to prescribe specific standard plugs and jacks, including a Programmed Data Jack design, in the belief that acceptable designs will be voluntarily arrived at by cooperative action between the carriers and the terminal equipment industry.

If jointly sponsored designs for standard plugs and jacks are not expeditiously arrived at, we will prescribe specific designs. We will require that any entity be permitted to manufacture and supply standard plugs for use with registered terminal equipment and registered protective circuitry, without being subject to licensing by a telephone company and without any other telephone company-imposed restrictions.

Notification to Telephone Company

50. We have included a requirement that any customer desiring to connect terminal equipment to the telephone network must give notice to the telephone company. This will allow the telephone company to keep complete and accurate records of all equipment connected to each tele-

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[33] We note that this approach has already been adopted by the telephone carriers' attestation program for headsets and non-powered conferencing devices, by their conformance program for answering devices, and by their long standing practice of providing portable extension telephones.

phone line, and will aid in the performance of both routine maintenance and repairs. It will also enable the telephone companies to have at their disposal certain statistical information regarding interconnection (which may at a future date be required to be furnished this Commission). Since the notification to the telephone company includes the F.C.C. Registration Number, this information will enable the telephone company to identify all customers using a particular type of registered equipment, if it should become necessary to notify such customers, in special circumstances such as revocation of an equipment registration number. Furthermore, since the notification also includes the Ringer Equivalence Number, the telephone company will be able to inform its customers as to whether such registered equipment may be connected to the telephone line without exceeding the ringing bridge limitation (maximum number of ringers which may be connected) for that telephone line.

Incidence of Harm

51. Although our rules are designed to assure that no harm from terminal equipment will ever reach the telephone network, Section 68.108 gives the telephone company the right to temporarily discontinue a customer's service, should any harm to the telephone network be caused by such customer's terminal equipment. Assuming full compliance with all the rules and regulations in Part 68, we would expect that no such temporary discontinuances would occur; however, out of extreme caution, we believe that the telephone company should have the option available to it of temporarily discontinuing a customer's service, should the facts of a given situation clearly warrant such extreme action. If a complaint is brought against the telephone company as a result of a temporary discontinuance, the telephone company will have the burden of proving that such action was reasonable.

Repair of Equipment

52. Section 68.216 sets forth our requirements on the repair of registered terminal equipment and registered pro-

tective circuitry.[34] In order to maintain the level of assurance accorded by the design and manufacture of such equipment, repairs must be performed by the manufacturer or assembler of such equipment or by their authorized agent. However, we will allow routine repairs, such as fuse replacement, the changing of a pilot lamp, etc., to be performed by users, where the manufacturer or assembler satisfactorily demonstrates that the performance of such routine repairs will not result in a violation of the requirements of Subpart D of our rules. This limited exception, however, is to be construed narrowly, as we do not wish it to open the door to uncontrolled maintenance activities which may have some effect upon compliance with our technical requirements.[35]

Registration Procedures

53. Subpart C of the rules contains all the rules governing the procedures to be followed in registering terminal equipment and protective circuitry. These rules have been designed to insure that the Commission retains complete control over the registration program, while at the same time the required interaction between industry and the Commission is reduced to a minimum. We have accomplished this by adopting a plan whereby equipment sought to be registered is to be tested by the manufacturer or assembler rather than the government with the test results submitted along with the application for registration. While we do not expect that the administration of this program will routinely entail physical examination and/or testing

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[34] Section 68.216 is in no way intended to limit a user's ability to repair any parts in terminal equipment other than registered protective circuitry.

[35] We would note that where registered protective circuitry is fabricated on a plug-in subassembly in such manner that by no foreseeable failure to properly insert or remove such a subassembly, can a violation of the requirements of Subpart D of these rules occur, then we would consider the limited exception to this rule as applicable if the user "repairs" failed registered protective circuitry by plug-in replacement.

of terminal equipment or protective circuitry, the Commission specifically reserves the right to do so upon complaint or upon its own motion. We feel that this approach is simple and efficient from a regulatory point of view and will entail a minimum of administrative and other expense.

54. While we have provided that applications for registration will be placed on public notice, we wish to stress that we will not permit this procedure to become a means for delaying registration grants. All comments must be supported by relevant data and address the capability of the equipment or circuitry to comply with the technical requirements of Subpart D. Comments addressing other issues will not be entertained. In setting forth the rules relating to registration procedures, we have not specified the particular form an application should take nor have we indicated appropriate fees for registration. These, and other procedural matters will be addressed in future orders prior to the effective date of these rules.

CONCLUSION

55. We conclude that the Federal registration program described above and set out in the appendix hereto will provide the necessary protection for the telephone network from harms caused by the connection of terminal equipment thereto, and that adoption of this program will serve the public interest. In view of the action we are taking herein, i.e., adoption of a Federal registration program applicable to all classes of terminal equipment, we have further concluded that the proceedings in Docket No. 19528 should be terminated. However, as the registration program established herein is new, we believe it should be subject to continuing review and modification, if necessary, as actual experience under the program warrants. Accordingly, the Commission will continue to confer, as appropriate, with state commissions concerning those interconnection matters over which the state commissions and this Commission have jurisdiction.

ORDER

56. In view of the foregoing, IT IS HEREBY ORDERED, pursuant to Sections 4(i), 4(j), 201–205, 208, 215, 218, 313, 314, 403, 404, 410 and 602 of the Communications Act that the Commission's Rules and Regulations are amended by adding a new Part 68 as shown in the appendix hereto, effective April 1, 1976.[36]

57. IT IS FURTHER ORDERED That the pleadings mentioned in paragraph 4 above are DENIED and the pleadings mentioned in paragraph 5 above are DISMISSED.

58. IT IS FURTHER ORDERED That interested parties may file comments not later than December 11, 1975, directed to the planned inclusion of PBXs, key telephone systems and main station telephones in our registration program.

59. IT IS FURTHER ORDERED That AT&T revise its Tariffs F.C.C. Nos. 259 (WATS) and 263 (MTS), on not less than 60 days notice, in accordance with the requirements of this Report and Order, to be effective on the effective date of the rules in Part 68.

FEDERAL COMMUNICATIONS COMMISSION,
VINCENT J. MULLINS, *Secretary.*

The Commission's Rules and Regulations (Chapter I of Title 47 of the Code of Federal Regulations) are amended by the addition of a new Part 68 as follows:

PART 68.—CONNECTION OF TERMINAL EQUIPMENT TO THE TELEPHONE NETWORK

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SUBPART A—GENERAL

Section 68.1 Purpose.
Section 68.2 Scope.
Section 68.3 Definitions.

[36] Part 68 of the Commission's Rules and Regulations is not applicable to terminal equipment connected to the telephone network prior to the effective date of these rules.

SUBPART B—CONDITIONS ON USE OF TERMINAL EQUIPMENT

Section 68.100 General.
Section 68.102 Registration Requirement.
Section 68.104 Standard Plugs and Jacks.
Section 68.106 Notification to Telephone Company.
Section 68.108 Incidence of Harm.
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SUBPART C—REGISTRATION PROCEDURES

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Section 68.202 Public Notice.
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SUBPART D—CONDITIONS FOR REGISTRATION

Section 68.300 Labelling Requirements.
Section 68.302 Environment Simulation.
Section 68.304 Leakage Current Limitations.
Section 68.306 Hazardous Voltage Limitations.
Section 68.308 Signal Power Limitations.
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Part 68.—Connection of Terminal Equipment to the Telephone Network

SUBPART A—GENERAL

Section 68.1 *Purpose.*

The purpose of the rules and regulations in this Part is to provide for uniform standards for the protection of the telephone network from harms caused by the connection of terminal equipment thereto.

Section 68.2 *Scope.*

The rules and regulations in this Part apply to the direct connection of all terminal equipment other than coin telephones to the telephone network after the effective date of these rules, for use in conjunction with all services other than party line service. Terminal equipment as used in this Part includes terminal equipment and/or systems. *Note:* Pending further proceedings, the rules and regulations in this Part do not apply to PBXs, key telephone systems, or main station telephones.

Section 68.3 *Definitions.*

As used in this part:

Direct Connection: Connection of terminal equipment to the telephone network by means other than acoustic and/or inductive coupling.

Harm: Electrical hazards to telephone company personnel, damage to telephone company equipment, malfunction of telephone company billing equipment, and degradation of service to persons other than the user

of the subject terminal equipment, his calling or called party.

Interface: The point of interconnection between terminal equipment and telephone company communication facilities.

Longitudinal Balance: The ratio of the absolute value of longitudinal voltage divided by metallic voltage in decibels (voltage) with the magnitudes of the longitudinal and metallic voltages obtained as follows:

(1) A longitudinal voltage of 12.5 volts, r.m.s. is impressed;

(2) No metallic voltage is impressed; and

(3) The metallic voltage resulting from imbalance of the equipment is determined over a sufficient number of permutations of frequency and simulated loop current to specify the longitudinal balance of the equipment under test over frequency and loop current.

(NOTE.—The first two requirements are met if means are employed by test equipment to impress equal voltages with respect to earth ground on tip and ring of 25 volts, r.m.s.)

Longitudinal Voltage: One half the sum of the potential difference between the tip connection and earth ground, and the ring connection and earth ground.

Loop Simulator Circuit: A circuit consisting of a current source, variable from 20 to 160 milliamperes d.c. in parallel with an impedance consisting of 900 ohms ±1% in series with 2.14 microfarads ±1%. Equipment connected to the loop simulator circuit shall be paralleled with this impedance, and tests shall be conducted over the full range of variation of the current source, both polarities, with sufficient time allowed for the 2.14 microfarad capacitor to charge to a steady-state condition.

Metallic Voltage: The potential difference between the tip and ring connections.

Registered Protective Circuitry: Separate, identifiable and discrete electrical circuitry designed to protect the telephone network from harm, which is registered in accordance with the rules and regulations in Subpart C of this Part.

Registered Terminal Equipment: Terminal equipment which is registered in accordance with the rules and regulations in Subpart C of this part.

Telephone Network: The public switched telephone network.

SUBPART B—CONDITIONS ON USE OF TERMINAL EQUIPMENT

Section 68.100 *General.*

Terminal equipment may be directly connected to the telephone network in accordance with the rules and regulations in Subpart B of this Part.

Section 68.102 *Registration Requirement.*

Terminal equipment must be registered in accordance with the rules and regulations in Subpart C of this Part, or connected through registered protective circuitry, which is registered in accordance with the rules and regulations in Subpart C of this Part.

Section 68.104 *Standard Plugs and Jacks.*

(a) General: Except for telephone company-provided ringers, all connections to the telephone network shall be made through standard plugs and standard telephone company-provided jacks, in such a manner as to allow for easy and immediate disconnection of the terminal equipment. Standard jacks shall be so arranged that, if the plug connected thereto is withdrawn, no interference to the operation of equipment at the customer's premises which remains connected to the telephone network, shall occur by reason of such withdrawal.

(b) Programmable Standard Plugs and Jacks: Where a customer desires to connect data equipment which has been registered in accordance with Section 68.308(b)(2), he shall notify the telephone company of each telephone line to which he intends to connect such equipment. The telephone company, after determining the attenuation of each such telephone line between the interface and the telephone company central office, will make such connections as are necessary in each Programmed Data Jack which it will install, so as to allow the maximum signal power delivered by such data equipment to the telephone company central office to reach but not exceed the maximum allowable signal power permitted at the telephone company central office.

Section 68.106 *Notification to Telephone Company.*

Customers connecting terminal equipment to the telephone network shall, before such connection is made, notify the telephone company that such connection is being made and shall provide to the telephone company the F.C.C. Registration Number and the Ringer Equivalence Number of the registered terminal equipment or registered protective circuitry.

Section 68.108 *Incidence of Harm.*

Should terminal equipment cause harm to the telephone network, the telephone company shall, where practicable, notify the customer that temporary discontinuance of service may be required; however, where prior notice is not practicable, the telephone company may temporarily discontinue service forthwith, if such action is reasonable in the circumstances. In case of such temporary discontinuance, the telephone company shall (1) promptly notify the customer of such temporary discontinuance, (2) afford the customer the opportunity to correct the situation which gave rise to the temporary discontinuance, and (3) inform the customer of his right to bring a complaint to the Commission pursuant to the procedures set out in Subpart E of this Part.

Section 68.110 *Compatibility of the Telephone Network and Terminal Equipment.*

(a) Availability of Interface Information: Technical information concerning interface parameters not specified in this Part, including the number of ringers which may be connected to a particular telephone line, which is needed to permit terminal equipment to operate in a manner compatible with telephone company communications facilities, shall be provided by the telephone company upon request.

(b) Changes in Telephone Company Facilities, Equipment, Operations or Procedures: The telephone company may make changes in its communications facilities, equipment, operations or procedures, where such action is reasonably required in the operation of its business and is not inconsistent with the rules and regulations in this Part. If such changes can be reasonably expected to render any customer's terminal equipment incompatible with telephone company communications facilities, or require modification or alteration of such terminal equipment, or otherwise materially affect its use or performance, the customer shall be given adequate notice in writing, to allow the customer an opportunity to maintain uninterrupted service.

SUBPART C—REGISTRATION PROCEDURES

Section 68.200 *Application for Equipment Registration.*

(a) An original and four copies of an application for registration of terminal equipment and protective circuitry shall be submitted to the Federal Communications Commission, Washington, D.C. 20554, and include the following information:

(1) Name of applicant;

(2) A statement whether applicant is the manufacturer or assembler of the equipment or a vendor or user other than the manufacturer or assembler (include the name of the manufacturer or assembler);

(3) A statement that the terminal equipment or protective circuitry complies with and will continue to comply with the rules and regulations in Subpart D of this Part, accompanied by such test results, description of test procedures, analyses, evaluations, quality control standards and quality assurance standards as are necessary to demonstrate that such terminal equipment or protective circuitry complies with and will continue to comply with all the rules and regulations in Subpart D of this Part.

(4) The instruction manual for the terminal equipment or protective circuitry, if such manual contains instructions for routine customer repairs, together with a statement certifying that such routine repairs will not result in noncompliance with the rules and regulations in Subpart D of this Part.

(b) Each application, including amendments thereto, shall be personally signed by the applicant if the applicant is an individual; by one of the partners if the applicant is a partnership; by an officer, if the applicant is a corporation; or by a member who is an officer, if the applicant is an unincorporated association.

Section 68.202 *Public Notice.*

(a) The Commission will issue public notices of the filing of applications for equipment registration and the grants thereof. No grant will issue before 20 days from the date of the public notice of the filing of the application.

(b) The Commission will maintain lists of equipment for which it has granted registration.

Section 68.204 *Comments and Replies.*

Comments may be filed as to any application for equipment registration within 20 days of the date of the public notice of its filing. Replies to such comments may be filed within 10 days of the date of filing of such comments. All

comments must be served on the applicant and all replies must be served on all parties filing comments.

Section 68.206 *Grant of Application.*

(a) The Commission will grant an application for equipment registration if it finds from an examination of such application and other matter which it may officially notice, that the equipment will comply with the rules and regulations in Subpart D of this Part, or that such grant will otherwise serve the public interest.

(b) Grants will be made in writing showing the effective date of the grant and any special condition(s) attaching to the grant.

(c) Equipment registration shall not attach to any equipment, nor shall any equipment registration be deemed effective, until the application has been granted.

Section 68.208 *Dismissal of Application.*

(a) An application which is not filed in accordance with the provisions of the Subpart will be dismissed unless accompanied by an appropriate request for waiver of the rules.

(b) Any application, upon written request, may be dismissed prior to a determination granting or denying the equipment registration requested.

(c) If an applicant is requested by the Commission to furnish any additional documents, information or equipment not specifically required by this Subpart, a failure to comply with the request within the time, if any, specified by the Commission will result in the dismissal of such application.

Section 68.210 *Denial of Application.*

If the Commission is unable to make the finding specified in Section 68.206 it will deny the application. Notification of the denial will include a statement of the reasons for the denial.

Section 68.212 *Assignment of Equipment Registration.*

Commission equipment registration may not be assigned, exchanged or in any other way transferred to another party, without prior written notice to the Commission.

Section 68.214 *Changes in Registered Terminal Equipment and Registered Protective Circuitry.*

No changes in registered terminal equipment and registered protective circuitry shall be made without prior written notice to the Commission. If such change in registered terminal equipment or registered protective circuitry results in any change in the information furnished the Commission pursuant to Section 68.200, the grantee shall submit a revised application for equipment registration in accordance with Section 68.200.

Section 68.216 *Repair of Registered Terminal Equipment and Registered Protective Circuitry.*

Repair of registered terminal equipment and registered protective circuitry shall be accomplished only by the manufacturer or assembler thereof or by their authorized agent; however, routine repairs may be performed by a user, in accordance with the instruction manual if the applicant certifies that such routine repairs will not result in noncompliance with the rules and regulations in Subpart D of this Part.

Section 68.218 *Responsibility of Grantee of Equipment Registration.*

In applying for a grant of an equipment registration, the grantee warrants that each unit of equipment marketed under such grant will comply with all the rules and regulations in Subpart D of this Part.

SUBPART D—CONDITIONS FOR REGISTRATION

Section 68.300 *Labelling Requirements.*

(a) Registered terminal equipment and registered protective circuitry shall have prominently displayed on an

outside surface the following information in the following format:

Complies With Part 68, FCC Rules
FCC Registration Number
Ringer Equivalence Number

(b) Registered terminal equipment and registered protective circuitry shall also have the following identifying information permanently affixed thereto:

(1) Grantee's name

(2) Model number, as specified in the registration application

(3) Serial number

Section 68.302 *Environment Simulation.*

Registered terminal equipment and registered protective circuitry shall comply with all the criteria contained in the rules and regulations in this Subpart, both prior to and after the application of each of the mechanical and electrical stresses specified in this section.

(a) Vibration: Sinusoidal vibrations of 5 Hz to 300 Hz at either a 2.5g acceleration or with a maximum displacement of 0.8 inches, whichever produces the smaller g-force for a given frequency, with a logarithmic sweep rate of ⅓ octave per minute from 5 Hz to 300 Hz and then back to 5 Hz.

(b) Temperature and Humidity: Cycling at any convenient rate through the following temperature and humidity conditions three times: 30 minutes at 150°F and 15 percent relative humidity, followed by 30 minutes at 90°F and 90 percent relative humidity, followed by 30 minutes at −40°F and any convenient humidity.

(c) Shock: If the weight of the unit in pounds plus ten times its volume in cubic feet is less than 20, dropping onto a cement support surface which is covered by a 1/16 inch

layer of vinyl tile, three times on each of its three axes from a height of 30 inches. Otherwise, lifting about a base surface edge until the base surface forms a 45-degree angle with the above support surface or the elevated edge attains a 4-inch height, whichever is less, and then releasing and allowing to rotate and drop to the support surface ten times for each base surface edge.

(d) Metallic Voltage Surge: Three 1000 volt peak surges of a metallic voltage (of each polarity) having a 10 microsecond rise time to crest and a 1000 microsecond decay time to half crest.

(e) Longitudinal Voltage Surge: Six 2500 volt peak surges (three of each polarity) having a 2 microsecond rise time to crest and a 50 microsecond decay time to half crest applied: (1) between all telephone connections connected together and earth ground, under all reasonable conditions of application of earth ground; and (2) between each power line connection and earth ground, and between all possible combinations of power line connections and earth ground, with the telephone connections connected singly and in combination with earth ground. *Note:* For purposes of Subsection (e)(2), an external connection to the protective circuitry or terminal equipment which may, under equipment failure, become connected with a power line shall be deemed a power line connection.

Section 68.304 *Leakage Current Limitations.*

Registered terminal equipment and registered protective circuitry assure that, if a voltage source is connected to any two of the three following points:

(1) all telephone connections, connected together

(2) all power connections, connected together

(3) all possible combinations of exposed conductive surfaces on the exterior of such equipment or circuitry.

and is gradually increased from zero to 1500 volts, rms, 60

Hertz over a thirty second time period, and then applied continuously for 1 minute, the current in the mesh formed by the voltage source and these points shall not exceed 2.5 milliamperes, rms, at any time during this 90 second time interval, under all reasonable applications of earth ground to such equipment or circuitry.

Section 68.306 *Hazardous Voltage Limitations.*

(a) Under no condition of failure of registered terminal equipment or registered protective circuitry, or of terminal equipment connected thereto, shall (1) the open circuit voltages between any two telephone connections exceed 70 volts peak a.c., 135 volts d.c. or 140 volts peak for combined a.c. and d.c. potentials, steady-state, or (2) the potential difference between any telephone connection and earth ground, under all reasonable conditions of application of earth ground to the registered terminal equipment or registered protective circuitry, or equipment connected thereto, exceed 70 volts peak, a.c., 135 volts d.c. or 70 volts peak for combined a.c. and d.c. potentials, steady-state.

(b) Registered protective circuitry shall conform to the requirements of subsection (a) when commercial 220 volts a.c., 60 Hertz power is connected between all combinations of terminal equipment connections and between each terminal equipment connection and earth ground, under all reasonable conditions of application of earth ground to such circuitry.

Section 68.308 *Signal Power Limitations.*

(a) General: Registered terminal equipment and registered protective circuitry shall assure that power, as averaged over any 3-second time interval, in the frequency range of 300-3995 Hertz, delivered to a loop simulator circuit, does not exceed 1.00 milliwatt.

(b) Data Equipment: For data applications, registered terminal equipment and registered protective circuitry shall assure that power, as averaged over any 3 second time

interval, in the frequency range of 300-3995 Hertz, delivered to a loop simulator circuit, does not exceed:

(1) .398 milliwatts (−4 dB with respect to 1 milliwatt) or

(2) a level set by means of connections in a Programmed Data Jack connected therewith, which level shall be programmed in each possible 1 dB step from −12 dB through 0 dB, with respect to 1 milliwatt.

(c) Additional Data Equipment Requirements: For data applications, registered terminal equipment and registered protective circuitry shall assure that when an incoming telephone call is answered through the use of ringing signal detection circuitry, the signal power, as delivered into a loop simulator circuit, shall be limited to −55 dB with respect to 1 milliwatt for no less than 2 seconds.

Section 68.310 *Longitudinal Balance Limitations.*

Registered terminal equipment and registered protective circuitry shall assure that, under all reasonable conditions of application of earth ground to the registered terminal equipment or registered protective circuitry or equipment connected thereto, the longitudinal balance, in the frequency range of 60–4000 Hertz. exceeds [120—20 $\log_{10}$ (frequency, Hertz)] decibels if the registered terminal equipment or registered protective circuitry is connected to a loop simulator circuit.

Section 68.312 *On-hook Impedance Limitations.*

(a) Registered terminal equipment and registered protective circuitry shall assure that:

(1) the d.c. resistance between tip and ring connections, and between each of the tip and ring connections and earth ground, under all reasonable applications of earth ground to the registered terminal equipment or registered protective circuitry or equipment connected thereto, shall be greater than 20 megohms if measured

with a current-limited 200 volt d.c. voltage source applied (both polarities) to each specified pair of points; and

(2) if a simulated ringing signal consisting of the sum of 75 volts d.c. and 100 volts a.c., r.m.s. in the frequency range of 16⅔ through 66⅔ Hertz is applied to the ringing detection terminals of registered terminal equipment or registered protective circuitry, no more than 1.5 milliamperes d.c. shall flow in the mesh formed by the ringing detection terminals and the simulated ringing signal.

(b) The impedance measurable across the ringing detection terminals of one or more units, connected in parallel, of the same registered terminal equipment or registered protective circuitry, under the application of a 10 volt r.m.s. sinusoidal voltage, shall exceed the impedance magnitude versus frequency curve, depicted in Figure 1, at each frequency depicted on that curve. The reciprocal of the maximum number of such units of the same registered terminal equipment or registered protective circuitry which may be connected in parallel, such that the measurable impedance exceeds the specified curve, is the Ringer Equivalence Number.

Section 68.314 *Minimum Call Duration Requirements.*

For data applications, registered terminal equipment and registered protective modules shall assure that an outgoing telephone call shall persist for at least 2 seconds after the call is answered.

[FIGURE 1 IS OMITTED IN THIS APPENDIX]

SUBPART E—COMPLAINT PROCEDURES

Section 68.400 *Content.*

A complaint shall be in writing and shall contain: (a) the name and address of the complainant, (b) the name (and address, if known) of the defendant against whom the com-

plaint is made, (c) a complete statement of the facts, including supporting data, where available, showing that such defendant did or omitted to do anything in contravention of Part 68 of the Commission's Rules, and (d) the relief sought.

Section 68.402 *Amended Complaints.*

An amended complaint setting forth transactions, occurrences or events which have happened since the filing of the original complaint and which relate to the original cause of action may be filed with the Commission.

Section 68.404 *Number of Copies.*

An original and two copies of all complaints and amended complaints shall be filed. An original and one copy of all other pleadings shall be filed.

Section 68.406 *Service.*

(a) The Commission will serve a copy of any complaint or amended complaint filed with it, together with a notice of the filing of the complaint. Such notice shall call upon the defendant to satisfy or answer the complaint in writing within the time specified in said notice of complaint.

(b) All subsequent pleadings and briefs shall be served by the filing party on all other parties to the proceeding in accordance with the requirements of Section 1.47. Proof of such service shall also be made in accordance with the requirements of said section.

Section 68.408 *Answers to Complaints and Amended Complaints.*

Any party upon whom a copy of a complaint or amended complaint is served under this subpart shall serve an answer within the time specified by the Commission in its notice of complaint. The answer shall advise the parties and the Commission fully and completely of the nature of the defense, and shall respond specifically to all material allegations of the complaint. In cases involving allegations of harm, the answer shall indicate what action has been taken

or is proposed to be taken to stop the occurrence of such harm, both in terms of future production and with reference to articles in the possession of distributors, sellers, and users. Collateral or immaterial issues shall be avoided in answers and every effort should be made to narrow the issues. Matters alleged as affirmative defenses shall be separately stated and numbered. Any defendant failing to file and serve an answer within the time and in the manner prescribed may be deemed in default.

Section 68.410 *Replies to Answers or Amended Answers.*

Within 10 days after service of an answer or an amended answer, a complainant may serve a reply which shall be responsive to matters contained in such answer or amended answer and shall not contain new matters. Failure to reply will not be deemed an admission of any allegation contained in such answer or amended answer.

Section 68.412 *Defective Pleadings.*

Any pleading filed in a complaint proceeding not in substantial conformity with the requirements of the applicable rules in this part may be dismissed.

CONCURRING STATEMENT OF COMMISSIONER BENJAMIN L. HOOKS

(In re Connection of Terminal Equipment to the Telephone Network)

As a member of the Federal-State Joint Board which has been working on interconnect problems for the past several years, I concur in the main with the program hereinabove devised as a plausible solution to the principal issue of physical harm to the existing network. While the program is no doubt imperfect, and experience is likely to expose deficiencies in operational aspects (*e.g.*, attribution of responsibility for malfunctions, assessment of service costs, enforcement against non-complying manufacturers, installers and maintenance suppliers, accreditation of testing

sources), the Commission, for better or worse, has made the fundamental judgment that terminal interconnection is in the public interest; and, thus, reasonable standards are mandatory to effect this policy.

In concurring, however, I fully reserve the arguments I made in *Mebane Home Telephone Company of North Carolina*[1] with respect to expansion of our interconnection program in advance of the outcome of our Docket 20003 proceeding which is examining the economic impact of our interconnect policies. I remain concerned about the loss of revenues to the telephone companies, particularly—as in *Mebane*—the small, rural systems and cannot help but ponder the manner in which such losses, if significant, will be offset.

I cannot, nevertheless, fully join my majority colleagues in the requirement that telephone companies also register all their equipment with the Commission prior to installation.[2] Although sympathetic to the need to ensure that the telcos do not clamor for higher protection standards from independent manufacturers than imposed on themselves and favor an approach that assures that required competition is as fair as possible, registration of the phone companies' own equipment is an unnecessary over-reaction.

The telephone companies, unlike the independent manufacturers, have an inherent incentive in protecting the network (*viz.*, reduction of maintenance and service, promotion of overall telephone usage); that is why we have never required equipment clearance in the past. To do so now merely because some protection from foreign attachments is necessary is regulatory overkill which cannot be supported by logic or experience. We have ways, short of

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[1] 53 FCC 2d 473 (1975) (Commissioner Hooks, dissenting).

[2] Aware that I was part of the Joint Board which included telco registration of equipment in its proposal, the responses thereto have convinced me that such a requirement is wasteful of relevant resources.

meaningless registration, to preclude possible anti-competitive practices. Our record, thus far, contains no such anti-competitive finding.

If, in the future, it appeared that the phone companies were abusing equipment clearance procedures for competitive advantage, we might impose such bureaucratic rigmarole as telco equipment registration as a last resort. We should not, however, impose such expenses on the public (through increased governmental and industry costs) at the outset.[3]

Accordingly, while I do not dissent to the program overall, the foregoing prevents my unqualified approval and I would have invited further comments on the telco registration aspect of our program because the issue is so unique.

CONCURRING STATEMENT OF COMMISSIONER GLEN O. ROBINSON

I believe that this is the proper time for the Commission to extend registration requirements to all terminal equipment, including PBX, key telephone and main station equipment and ancillary devices. Our information and under-

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[3] The requirement that over 1,800 independent (non-Bell) telephone companies register their own equipment (even if only by cross-reference) along with hundreds of unknown suppliers must mean an unnecessary proliferation of the bureaucracy, whose job it will be to review and issue *pro forma* registration acknowledgments to telcos which already do an adequate job of protecting their network. While I do not subscribe to wholesale de-regulation and have urged an increase in our common carrier manpower to better regulate giants like AT&T (*GTE Satellite Corp.*, 43 FCC 2d 1168, 1169 (1973) (Commissioner Hooks, concurring)). I would use our scarce resources for tasks far more vital than what augurs to be cosmetic "make-work." While it is imperative that we know and understand what standards the telephone companies consider satisfactory if we are to intelligently regulate interconnection and undoubtedly should have secured such in the process of Docket No. 19528, discrete telco registration seems to be plain old red tape. File a form and pay a fee; timeless government response in the Computer Age.

standing is at present sufficient to allow us to extend our registration program to all such equipment. The Commission apparently acknowledges that there is no valid distinction between devices required to be registered and devices to which the registration requirements do not apply, in terms of their potential for harming the switched network. However, because "all parties may not have considered it necessary to fully address the inclusion of PBX, key telephone and main stations" the Commission has decided to seek further comments on the inclusion of PBX, key telephone and main station equipment. I disagree with this decision.

The proposed registration of all such equipment was unmistakably included in the proposal originally advanced by the Chief Engineer. It was commented on by many parties. Every interested party has had, in ample measure, both fair notice and the fullest opportunity to comment on every aspect of this case, including the registration of PBX, key telephone and main station equipment. Moreover, I venture to guess that any attempt to distinguish between ancillary equipment and PBX, key telephone, and main station equipment on technical grounds[1] will prove to be futile. Futility may not stop the Commission, however, and in consequence, one must look for a host of new (and, needless to say, unnecessary) problems for us (or the courts) to resolve. First and foremost, what properly constitutes data and ancillary equipment? What rule can we prescribe that will distinguish between a data terminal with an auxiliary voice capability for coordination, and a voice terminal with an auxiliary data capability? How will the line be drawn between voice and data services? For a teaser on how difficult this definitional problem is now—leaving aside how impossibly difficult it will obviously become in the future—one need only consult the Bell product notice

[1] We can set aside economic considerations insofar as these are, as the Commission emphasizes, not properly embraced within this proceeding.

taken from *Communications News*, Nov. 1975, p. 85, set out in the margin.[2]

Consider the dilemma created by the existence of a customer-owned protective connecting module, that will have to be certified as able to protect the public switched network from all harms that can be generated by improper input signals. If a user were to connect a voice terminal to the network through such a protective module, there would be no occasion for us to require disconnection because there would be no risk of technical harms to the system; the module is supposed to protect (and we certify that it does in fact protect) against those very harms. The principle of allowing customer-owned equipment to be interconnected to the public switched network is well established. We should not, therefore, be telling the users: "No, you cannot interconnect your equipment through your module; instead, you must rent a connecting module from the carrier even though we know that your module will protect the network from all possible harms." Such a position is illogical formally; it is not consistent with our policy of promoting competition, and (beyond either of those objections) it is unwise on its own merits.

One final comment on the scope of our registration program. For the present, I concur in the Commission's deci-

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[2] **Telephone for Electronic Funds Transfer Functions.—The Transaction II telephone for credit-card authorization, check verification, and other electronic funds transfer functions is designed for use in systems not equipped with audio-response units as well as voice-response applications. The telephone features an 8-character visual display, hands-free operation, and the ability to operate both in a voice-only system and in a data-oriented system. The Transaction II telephone contains all of the features of the Transaction I telephone including optional green/yellow lamp operation using keyed answer tone reception. A data receiver which operates at 150, 110, or 75 b/s with frequency-shift keyed data is also featured. Use card or write *AT&T, 195 Broadway, New York, New York 10007*.**

sion to require registration of carrier-supplied equipment. However, because I believe that the carriers do have an incentive, not shared by the interconnect companies, to protect the network against "harms," I concur in this requirement on the understanding that earnings will not necessarily be subject to the same technical standards as would be appropriate for interconnect companies. Thus, in judging carrier equipment, I assume we will take account of the special position of the carriers as network service providers and not merely equipment providers.

F.C.C. 76-242

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D. C. 20554

Docket No. 19528

In the Matter of

PROPOSAL FOR NEW OR REVISED CLASSES OF INTERSTATE AND FOREIGN MESSAGE TOLL TELEPHONE SERVICE (MTS) AND WIDE AREA TELEPHONE SERVICE (WATS)

Second Report and Order

(Adopted: March 18, 1976; Released: March 18, 1976)

BY THE COMMISSION: COMMISSIONER HOOKS DISSENTING AND ISSUING A STATEMENT; COMMISSIONER QUELLO DISSENTING.

1. In a First Report and Order herein (First Report), released November 7, 1975, 56 FCC 2d 593, the Commission established a registration program designed to allow users of the nationwide telephone network to connect terminal equipment other than PBXs, key telephone systems, main station telephones, and coin telephones to the network without the need for carrier-supplied connecting arrangements, provided they comply with the standards incorporated in the registration program to protect the network from harm. The standards and registration procedures are contained in a new Part 68 of the Commission's Rules.

2. While the Commission was tentatively of the view that main telephones, private branch exchange (PBX) equipment, and key telephone (KT) equipment presented no valid distinction as to potential for "harm," compared with equipment already within the scope of Part 68 (*see* First Report, paragraph 18), it offered parties to this proceeding an additional opportunity for further comment on their

inclusion.[1] Comments were received from telephone companies (the Bell System Companies (hereinafter, AT&T), GTE Service Corporation and affiliated telephone companies (hereinafter, General), United Systems Service, Inc., (and Continental Telephone Corporation) and their trade associations (National Telephone Cooperative Association; United States Independent Telephone Association); the United States Department of Justice; the Rural Electrification Administration (REA); the North Carolina Utilities Commission (NCUC); user groups (Association of American Railroads, Utilities Telecommunications Council, American Petroleum Institute, and Ad Hoc Telecommunications Committee); and equipment manufacturers and their trade associations (North American Telephone Association, Computer and Business Equipment Manufacturers Association, the Electronic Industries Association, International Telephone and Telegraph Corporation, Danray, Inc., Com-Path Division of Scott-Buttner Communications, Inc., and DASA Corporation).

3. The comments listed in paragraph 2 above, fall into two general categories: *first,* there are comments which argue that it is inappropriate to include main station telephones, PBXs and key telephone systems within the scope of the FCC's registration program, and *second,* there are comments which argue that the Part 68 rules must be modified before including such equipment in the program.

4. Following the filing of these comments, the Federal-State Joint Board, on February 25, 1976, adopted a Recommended Second Report and Order, which recommended that main telephones, key telephone systems, and PBX equipment not be included in the registration program adopted by the Commission in its First Report and Order in this proceeding. This recommendation was based solely on the Joint Board's general fears concerning possible revenue losses the telephone companies may suffer as a

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[1] *See* 56 FCC 2d 626 (1975).

result of competition in the terminal equipment field—not on any asserted danger of technical harm to the network.

Delineation of the Issues

5. The matter now before the Commission is a direct outgrowth of, and falls within the overall policy framework established by, the Commission's *Hush-A-Phone* and *Carterfone* decisions.[2] In *Hush-A-Phone* the Commission ruled, pursuant to judicial guidelines, that:

> In addition to invalidating the defendants' foreign attachment tariff regulations insofar as they bar the use of the Hush-A-Phone device, an inescapable consequence of the Court's opinion is to render such tariff regulations unjust and unreasonable *insofar as they may be construed or applied to bar a customer from using other devices which serve the customer's convenience in his use of the facilities furnished by the defendants and which do not injure the telephone companies' employees or facilities, or the public in the use of defendants' services, or impair the operation of the telephone system. As we construe the Court's opinion, a tariff regulation which amounts to a blanket prohibition against the customer's use of any and all devices without discriminating between the harmful and harmless encroaches upon the right of the user to make reasonable use of the facilities furnished by the defendants.* Such a regulation goes beyond what is reasonably required in the interest of protecting the defendants' employees, facilities, the telephone system and the public from adverse effects. (emphasis supplied) 22 FCC 112, 113-114 (1957).

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[2] *Hush-A-Phone Corp.* v. *U.S.*, 99 U.S. App. D.C. 190, 238 F.2d 266 (D.C. Cir. 1956); *Carterfone*, 13 FCC 2d 420 (1968), reconsideration denied, 14 FCC 2d 571 (1968); *see also, Interstate and Foreign Message Toll Telephone, etc.*, 56 FCC 2d 593, 594-96 (1975).

6. In *Carterfone*, the Commission applied the same basic principles in ruling that a device used to interconnect mobile radio systems to the interstate and foreign message telecommunications system filled a need, that its use did not adversely affect the telephone system, and that the AT&T tariff prohibiting its use was unreasonable and unlawful within the meaning of Section 201(b) of the Communications Act of 1934. The Commission also made it clear that the *Carterfone* decision was not limited to the Carterfone device *per se*, but was rather a broad general policy.[3]

7. Pursuant to the *Carterfone* decision, AT&T filed tariffs (in which its connecting carriers concurred) which generally allowed the interconnection of all types of customer-provided terminal equipment, provided that direct electrical connection would be accomplished only through carrier-supplied "connecting arrangements," (interface devices designed to protect the network from technical harm). Without ruling as to the necessity for or lawfulness of the tariff requirement that carrier-supplied connecting arrangements be employed, the Commission allowed the Carterfone tariffs to go into effect. Thus, since 1968, customers have been accorded the right pursuant to *Hush-A-Phone* and *Carterfone* to provide their own terminal equipment of all types, and independent manufacturers and distributors have been afforded the opportunity to supply such equipment to the public in competition with the vertically integrated telephone industry.

8. In recognition of the fact that the post-Carterfone tariff conditions continue to impose certain restrictions on both the customer and the independent supplier of terminal equipment, the Commission at the same time instituted informal proceedings to obtain technical and operational data to assist its evaluation of the public interest factors involved in the possible liberalization of the network control

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[3] The parties recognized this and themselves argued on a broad policy basis. *See, Carterfone*, 13 FCC 2d at 425 (1968).

signalling unit and connecting arrangement provisions of the revised tariffs. Further, on June 14, 1972, the Commission instituted this proceeding by Notice of Inquiry and Proposed Rulemaking, 35 FCC 2d 539 (1972), to determine whether and under what terms, conditions, or limitations the interstate MTS and WATS tariffs should be revised to allow customers to have the option of furnishing any needed network control signalling units and connecting arrangements (or the functional equivalent thereof), and to determine what rules, if any, the Commission should adopt with respect to the foregoing.

9. On November 7, 1975, after lengthy proceedings in this Docket, the Commission issued its First Report and Order, in which it concluded that:

(1) The present tariff provisions requiring the use of carrier-supplied connecting arrangements impose an unnecessarily restrictive limitation on the customer's right to make reasonable use of the services and facilities furnished by the carriers.

(2) They constitute an unjust and unreasonable discrimination both among users (or classes of users) and among suppliers of terminal equipment.

(3) The standards and procedures prescribed for the registration with the F.C.C. of protective circuitry and/or terminal equipment will provide the necessary minimal protection against network harm, which has been specified in various carrier operating procedures and/or the recommendations of the Joint Board and others, and will serve the public interest.

10. While the proceedings in this Docket were continuing, the Commission initiated a broad fact-finding inquiry into the economic implications and interrelationships among a number of industry developments, policies, and practices—some instituted pursuant to regulatory policy, others

carrier-initiated.[4] In its Notice of Inquiry in Docket No. 20003, the Commission stated it would look into the effect of current pricing practices and regulatory policies on the level and distribution of customer charges for various telecommunication services, and in particular on the extent to which various categories of customers are now or will be, under alternative pricing practices and regulatory policies, subsidizing the services received by others. Of particular concern in that proceeding are the comparative economic effects on both overall telecommunications costs and charges and on the costs and charges for different categories of both public and business customers, of such factors as the interconnection and use of customer-provided facilities, the use of specialized common carrier services in lieu of common carrier private line services, the use of flat-rate and other cost-insensitive pricing practices for local exchange services, and the jurisdictional separation of revenues and expenses for plant and facilities commonly used for both intrastate and interstate (including foreign) services.

Discussion

11. The issue now before the Commission in Docket 19528 has thus been clearly delineated as a consequence of prior Commission decisions extending back to *Hush-A-Phone*. The issue is not whether customers should be afforded the opportunity to interconnect their terminal equipment with the telephone network via direct electrical connections. That issue was decided by the Commission and the Courts in *Hush-A-Phone* and *Carterfone;* to the extent that parties may believe it necessary or desirable to revisit those decisions, that is a matter beyond the scope of this proceeding. Nor is the issue one of potential economic impact on the carriers. That issue was also

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[4] ***Economic Implications Relating to Customer Interconnection, Jurisdictional Separations, and Rate Structures,*** **Docket No. 20003, 46 FCC 2d 214 (1974).**

addressed initially and disposed of in the *Carterfone* decision. To the extent that any specific cases of economic harm can be demonstrated, to such an extent as to affect the carriers' ability to continue providing essential public telecommunications services, parties have been and continue to be afforded the opportunity pursuant to *Carterfone* to make such a showing and to seek appropriate relief. To the extent that more general allegations and issues of potential future economic harm are concerned, such matters are being addressed in the Commission's concurrent and broad-ranging economic inquiry, Docket 20003. Thus, the single issue now before the Commission is whether, having adopted a terminal equipment registration program for the reasons cited in its November 7, 1975 First Report and Order, it is reasonable for any valid technical or legal basis, for the Commission to continue excluding PBX's, key telephone systems, and main station telephones from this registration program.

12. Certain parties (primarily the telephone companies) have argued—and the Joint Board has recommended—that main telephones, PBX and KT equipment should remain excluded from the scope of the F.C.C. registration program pending the outcome of the Commission's economic inquiry in Docket No. 20003. As noted above and in the First Report (see paragraphs 18 and 19, and footnote 10 thereto) such considerations do not fall within the scope of the Docket No. 19528 proceedings. From its inception, Docket No. 19528 has been concerned solely with the issue of technical harm. Economic issues, including questions concerning the continued validity of the *Carterfone* decision, are matters which may and are being addressed fully in other proceedings before the Commission without the necessity of delaying the 19528 proceeding. Pursuant to *Carterfone,* parties have been and continue to be afforded the opportunity to demonstrate specific instances of economic harm as a basis for seeking relief from the full application of this policy. To date, only one party has

sought a hearing on this basis, and that hearing was terminated prior to the introduction of evidence, at the petitioner's request.[5]

13. In Docket No. 20003, the Commission has also afforded parties the opportunity to present facts, studies, or opinions regarding both present and future economic effects resulting from a broad range of interrelated economic issues of general applicability (see paragraph 10, above), including, among other things, liberalized interconnection and competition in various sectors of the communications industry. Based on the information gained from this inquiry, we fully expect to institute further rulemaking or other proceedings as appropriate, dealing in a comprehensive and coordinated manner with both the carriers' alleged losses and the public benefits of competition. However, the Commission has made it abundantly clear from the first Notice of Inquiry in Docket No. 20003 that initiation of this proceeding would not necessarily preclude further action in Docket No. 19528. We do not intend, as some parties would have us do, to prejudge the outcome of the Docket No. 20003 inquiry in favor of *any* party. For the purpose of proceeding with Docket No. 19528 it is sufficient to note the absence to date of any showing before the FCC that any actual economic harm has been experienced much less that this has adversely affected any carrier's ability to serve the public. Comments received herein broadly allege some adverse economic impact without quantification.[6] Such allegations are not a demon-

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[5] *Mebane Home Telephone Co.*, FCC 75M-1788 (released October 17, 1975).

[6] GTE cites its allegations in Docket No. 20003 as some indication of the present contribution of PBX and KT equipment to its revenues, without quantifying how much of such contribution is expected to be lost as a result of applying Part 68 to such equipment. GTE merely assumes, without explanation, that 50% of the replacement and growth market would be penetrated by competition. Such assumptions and

stration of expected economic impact sufficient to require that the rights of connecting registered equipment under Part 68 to the telephone network be denied to all telephone subscribers, nationwide.

14. The Joint Board has also experessed concern that we not extend the registration program to PBX, KTS, and main telephones solely to promote competition for its own sake. This clearly is not, and has never been, the Commission's primary objective. The guiding principle in *Carterfone* and related decisions has been to afford the users of the nationwide telecommunications network greater flexibility and choice in their use of that network—through customer-provided terminal equipment—in ways which are privately beneficial without being publicly detrimental. By affording telephone customers more freedom of choice in the provision and interconnection of terminal equipment, the markets for such devices *have* expanded, and price competition and innovation on the part of both the telephone companies and independent equipment suppliers *has* resulted. This competition has increased the utility of the nationwide telephone network, a result which we consider both privately and publicly beneficial—but competition *per se* has not been the Commission's objective. Competition in the terminal market has existed since 1969 when telephone company tariffs filed in response to *Carterfone* permitted connection of customer-supplied equipment through telephone company connecting arrangements. These connecting arrangements (for which a monthly charge is assessed) were never alleged to be necessary as an anticompetitive deterrent to the purchase of non-carrier equipment. Nor were they alleged to be necessary as a surcharge needed to produce revenue "contribution" to the telephone companies. Rather they were alleged to be necessary solely to protect the nation's

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allegations are being thoroughly scrutinized in Docket 20003; but they can hardly be considered sufficient to justify further delay in this long-pending proceeding.

telephone network from any technical harms which non-carrier terminals might produce. The F.C.C.'s registration program does not extend the area of competition; it merely removes what has been found to be an unnecessary and discriminatory carrier-imposed restriction on the manner in which customer-provided equipment may be connected to the network.

15. Some parties (again, primarily the telephone companies) take the position that Part 68 should not be extended to encompass main telephones, PBX and KT equipment as such equipment has a high incidence on the telephone network, and that the present inadequacies of Part 68 would become more acute. This argument is incorrect. First, the Commission's registration program has been drawn to achieve the same result as the telephone companies' own protective devices have achieved since January, 1969. Second, if equipment is actually harmful, the telephone companies have the right to disconnect it from the network by discontinuing service (Section 68.108 of the Rules), and thus actually harmful equipment will not remain connected to the telephone network. Third, to the extent that the technical requirements of Part 68 are inadequate (and in our view this is not the case), interested parties can petition for changes in the Part 68 rules at any time. Alternatively stated, the proper remedy for an allegedly inadequate technical requirement is not to deny the rights of connecting registered equipment under Part 68 to all telephone subscribers indefinitely. Rules often change as requirements change; the purpose of allowing petitions for rulemaking is to accommodate such changed requirements. With regard to the Part 68 technical requirements, it should be noted that many of the changes which Bell has suggested in an amendment to its Petition for Reconsideration, filed January 22, 1976, recommend *less* stringent parameters than are presently contained in Part 68.

16. Another argument is that (in GTE's view) main tele-

phones should not be included as it is important that there be at least one telephone company-provided instrument on the customer's premise to assure compatibility with the telephone network and fulfill the telephone company's "end-to-end" service responsibility. However, the telephone companies have provided connecting arrangements without an associated telephone instrument, and therefore must have themselves concluded that there is no such necessity.[7] Second, in the First Report and Order, compatibility was distinguished from network harm (e.g., *see* paragraph 22, and Section 68.110(a) of the Rules). Third, the telephone companies do not even now have "end-to-end" responsibility where customer-provided equipment is used. They are only responsible for the service which they provide. When a customer chooses to use equipment not provided by the telephone company, the telephone company is only responsible for providing adequate communication line service. Obviously, the telephone company cannot be responsible for the performance of equipment which it does not provide, install and maintain.[8]

17. The telephone companies, and their trade associations, also oppose inclusion of telephone company-provided main station telephones, PBX and KT equipment for the same reasons as were stated in Petitions for Reconsidera-

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[7] F.C.C. Tariffs No. 259 (WATS) and 263 (MTS) impose no requirement for a carrier-supplied telephone instrument in addition to a connecting arrangement for connection of customer-provided terminal equipment and/or systems. Also, the alleged requirement is plainly impractical in the case of PBX trunks (presently used with connecting arrangements) which are not even compatible with a telephone instrument.

[8] Customers who choose to use equipment not supplied by the telephone company assume the risk that this equipment will not perform adequately. Presumably, suppliers of inadequate equipment will not remain in the market for very long. The Rules in Part 68, however, assure that in failing to operate properly, even inadequate equipment will not harm the telephone network.

tion of the First Report and Order. Both the Joint Board, in its Recommended First Report and Order, and the Commission, in its First Report and Order and its Memorandum Opinion and Order on reconsideration thereof (FCC 76-134, released February 13, 1976), have ruled that telephone company equipment should be included in the scope of Part 68. No new arguments have been advanced in support of changing present provisions of Part 68 with regard to telephone company-provided equipment, as applied to main telephones, PBX and KT equipment.

18. Many parties have filed comments addressing the applicability of the technical requirements of the Commission's present registration program to main telephones, PBX and KT equipment. Such parties have pointed out that the specific technical requirements of Subpart D of Part 68 will have to be varied to accommodate certain differences between telephone lines and telephone trunks (trunks are used with PBX equipment). In addition, the comments argue that specific parametric values which are presently contained in Subpart D should be changed to accommodate this equipment. We are addressing these matters below.

19. The general technical standards of Part 68, as presently stated in Subpart D thereof, are applicable to main telephones, PBX and KT equipment. Each of hazardous voltages, longitudinal balance, signal power and leakage currents must remain within stipulated limits to prevent harm. In addition, "pre-trip" and "false trip" must be prevented, except as noted below, and proper operation of billing equipment must be assured. All of the above must occur within foreseeable environmental and electrical stresses to which equipment will be subjected during shipment, installation and use.

20. Improper network control signaling, as the Commission concluded in its First Report and Order, paragraph 22, does not generally require specific protection,

except as it might relate to improper billing, since a failure of network control signaling will adversely affect the user's ability to generate telephone calls and receive telephone calls. The Commission chose, in the First Report and Order, to control one aspect of network control signaling—"pre-trip" and "false trip"— which is dependent upon limitations on on-hook impedance. This was done on the theory that an unknowing caller who attempted to place a telephone call to equipment which caused "pre-trip" or "false trip" would perceive the call as one which failed to go through, and would be expected to continue to attempt to place the call, or involve telephone company maintenance personnel. The rationale for controlling on-hook impedance is equally applicable to main telephones and key telephone systems, as "pre-trip" and "false trip" have been controlled in the past, where such customer-provided equipment, used for both residential and business applications, was connected through carrier-provided connecting arrangements.

21. However, PBXs are only used for business applications, and a failure having the effect of "pre-trip" or "false trip" would render the PBX unable to answer incoming telephone calls. Such a failure would go far beyond inconvenience to the user; it would adversely affect his business. Consequently, such business users would be strongly motivated to both acquire equipment which did not have this effect, and to have offending equipment immediately repaired or replaced. Moreover, since the release of our First Report and Order, we have received no comments which indicate that incompatible PBX on-hook impedance will even cause "pre-trip" or "false trip," and we therefore must conclude that these effects will not occur. Accordingly, we will not impose on-hook impedance limitations, in Section 68.312, on PBX equipment. We view this as a problem of compatibility of terminal equipment with telephone facilities, and again encourage the telephone com-

panies to provide equipment manufacturers with design specifications to which equipment can be designed.[9]

22. The great majority of ancillary and data equipment which is presently within the scope of Part 68 is connected to loop-start telephone facilities, whereas PBX equipment, depending upon the central office facilities of the serving telephone company, may be configured either for loop-start or ground-start operation. A loop-start trunk or line uses network control signaling which is compatible with a telephone set, while a ground-start trunk uses the intentional connection with earth ground of one trunk wire at the central office to indicate the start and end of a call, and the indirect connection of one trunk wire with earth ground at the PBX to sense this central office-end connection with earth ground (through PBX circuitry) as well as the direct connection of one trunk wire with earth ground at the PBX to indicate the start of an outgoing call. All of these intentional connections with earth ground are timed so that balance is maintained on the trunk when voiceband energy is present on the trunk in order that crosstalk does not result when the connections with earth ground are present. As a consequence of Bell's January 22 and March 1 filings in this proceeding, and of the comments thereon, many Part 68 requirements have been modified to accommodate the intentional connections with earth ground that

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[9] Section 68.110 imposes a requirement that telephone companies supply such information upon request for particular telephone facilities; general design specifications, in the nature of "Technical References" which have been supplied in the past, would effect compliance with this rule if sufficiently comprehensive. We would note that complex compatibility problems in connection of customer-provided PBXs have been handled in the past through "Technical Reference" specifications and not hardware protection, e.g., incoming call timing protocols, outgoing call timing protocols and disconnect sequences. *See* "Technical References": PUB 42401, March 1974, *Voice Connecting Arrangement CDH*, pp. 3-4, 8; PUB 42402, March 1974, *Voice Connecting Arrangements CD7, CD8 and CD9*, pp. 3-4, 8.

occur on ground-start facilities. Thus, most of the technical concerns which were expressed in the comments which we received on including PBX equipment have already been alleviated.[10] In this order, therefore, we shall only deal with those problems which remain, in light of the changed requirements of Part 68 as presently written.

23. *Longitudinal Surges.* Section 68.302(e) requires conformance to the technical standards of Part 68 after the application of surges with respect to earth ground. Since equipment intended for use on ground-start facilities will normally have circuitry which is intentionally connected with earth ground, the effect of this requirement might be to destroy such circuitry during testing. As in the case of our other environmental conditioning requirements, our rules provide that if such is the case, the equipment is still required to conform to the limitations of Sections 68.304-68.314, although it may be inoperative.

24. *Longitudinal Balance Limitations.* Section 68.310(d) requires that registered one-port terminal equipment present 40 dB of balance in the 200-4000 Hertz band in the off-hook state, when used with ground-start facilities. This recognizes that in the on-hook, or quiescent state, there is an intentional connection with earth ground which would cause the balance parameter to fall below 40 dB. Section 68.310(e) establishes balance requirements for registered protective circuitry used with loop-start facilities, but there is presently no concomitant standard for registered protective circuitry used with ground-start facilities. Accordingly, we shall adopt a new Section 68.310(f) which follows the language of Section 68.310(e), but which imposes the limitation presently applicable to Section 68.310(d).

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[10] Parties had indicated that the leakage current, longitudinal balance, on-hook impedance and hazardous voltage limitations would have to be changed to accommodate PBX trunks. In addition, concern was expressed that the signal power limitations, rigidly applied, would require additional components in telephone sets used with PBXs, unnecessarily.

25. *On-hook Impedance Limitations.* In accordance with our discussion in paragraphs 21 and 22 above, the introduction to subsection (a) will be modied to state "Limitations on individual equipment intended for parallel operation on loop-start telephone facilities, other than PBX equipment."

26. *Means of Connection.* We have received comments which indicate that plugs and jacks may not be appropriate for connection of PBX and key telephone equipment to the telephone network in view of the multiplicity of connections which would be involved. As was the case in our First Report and Order, we view this as a problem which appropriately should be addressed, in the first instance, by the parties who will be performing installation of such equipment. Accordingly, we will institute cooperative meetings between carriers and equipment manufacturers and installers, by a Public Notice to be released in the future, which will address suitable means of connection of PBX and key telephone equipment to the telephone network. We reserve the right to prescribe the use of plugs and jacks, or other suitable means of connection, in the event that such cooperative meetings are not fruitful.

27. *PBX and KT Installation Problems.* Unlike ancillary and data equipment and telephone sets, which are generally connected only to the telephone network and to no other equipment, PBX and KT systems consist of common equipment which is directly connected to the telephone network, and remote terminal equipment (such as telephone sets) which is indirectly connected to the telephone network through the common equipment. If protective circuitry is employed at the point of connection with the telephone network, then no harm can result from improper installation of wiring between the common equipment and remote equipment. However, if protective circuitry is not connected between such intra-system wiring and the common equipment, and there is no protective circuitry at the point of connection to the telephone network, then the network

is vulnerable to inadequate intrasystem wiring, and improper installation of such wiring.

28. Wiring is passive. It cannot, of itself, generate any signals. It can, however, become connected with earth ground or power lines through inadequate insulation, or marginally adequate insulation and improper installation. We have received no adequate proposals for certifying the installation of wiring. Even if we were to make the leakage current requirements applicable to intra-system wiring (which would assure adequate insulation), there still would be no assurance of adequate separation from power lines at the time of installation of such adequately-insulated wiring. Thus, we are faced with a quandary; the common equipment may be perfectly acceptable without protective circuitry, and yet leave the telephone network vulnerable to the vagaries of installation of wiring connected with the common equipment.

29. We have not received adequate recommendations for appropriately addressing this problem in the scope of the F.C.C. registration program. Therefore, we are requiring that (1) PBX and KT equipment be connected to the telephone network through protective circuitry at the point of connection with the telephone network which assures compliance with the hazardous voltage, longitudinal balance and leakage current requirements regardless of the design and installation of the common equipment and intrasystem wiring (in which case, no further information concerning the design of the common equipment need be furnished, except as noted below); or (2) that such protective circuitry be located within the common equipment such that it is electrically in the path of all wiring between the common equipment and remotely-located equipment (such as telephones),[11] or (3) PBX and KT equipment be

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[11] Many PBX designs already incorporate such circuitry as is called for under options (1) and (2), e.g., "repeat coil" PBXs.

connected to the telephone network through *fully* protective circuitry at the point of connection with the telephone network (in which case, there would be no limitation on the remote terminal equipment which might be connected through the intra-system wiring, except possibly for data equipment). In each of the first two alternatives (1) the common equipment may only be used with remotely located terminal equipment which itself is registered as conforming with the signal power requirements of Part 68, or which is connected to the remote end of the intra-system wiring through registered protective circuitry, and (2) information would have to be furnished concerning the loop current furnished remote equipment, to determine whether equipment registered as conforming to the signal power requirements when connected to a loop simulator circuit would similarly conform to these requirements as connected with the loop currents furnished by the common equipment. Since the Bell-initiated revised signal power limitations do not control in-band power for live voice acousto-electrical transducers (such as telephone sets), this approach will require no additional power limiting components to be added to PBXs if used only with remotely located telephone instruments.[12]

Conclusions

30. After reviewing the various arguments cited herein, we are of the view that no valid legal or technical basis has been advanced which would support the continued exclusion of main telephones, PBX and KT equipment from the scope of Part 68 of the FCC Rules. Such equipment has been connected to the telephone network since *Carterfone,* through connecting arrangements (telephone

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[12] We encourage submission of proposed rule changes which would assure proper installation of intra-system wiring and thereby preclude any unnecessary use of protective circuitry.

company-provided protective circuits), and Part 68 of the FCC Rules provides substantially equivalent assurance of nonharmful connection without the telephone company-provided connecting arrangements. Additionally, all of the conclusions of paragraph 16 of the First Report and Order are applicable to main telephones, PBX and KT equipment, and therefore the present requirement of connecting such equipment solely through telephone company-provided connecting arrangements is unlawfully restrictive of the customer's right to use the telephone network in a manner which is privately beneficial without being publicly harmful. Moreover, the present requirement of connecting such equipment solely through telephone company-provided connecting arrangements is unlawfully discriminatory for the reasons stated in paragraph 16 of the First Report and Order.

31. In addition, a registration program applicable to some equipment types, but not applicable to other equipment types, would appear to raise serious questions of discrimination between those subscribers who wish to connect harmless equipment within the scope of the registration program, and those subscribers who would wish to connect harmless equipment not included within the scope of the program. The technical discrimination between equipment types is also serious. Anomalously, equipment which is presently within the scope of Part 68 (e.g., datasets, which are typically connected with commercial power sources) actually may present a higher potential for harm than does equipment which is presently excluded (e.g., main telephones, which are connected with no power sources other than the telephone network itself). Such discrimination can simply not be sustained on technical "harm" grounds. Further, this discrimination becomes totally unsustainable in the case of main telephones (presently excluded) which are the same instruments as extension telephones (presently included).

32. The Part 68 technical requirements are applicable to main telephones, without modification, and to key telephone and PBX equipment, as modified herein. Main telephones, key telephone and PBX equipment which is registered in accordance with Part 68, or which is connected to the telephone network through protective circuitry registered in accordance with Part 68 will be privately beneficial without being publicly harmful. The requirements of Part 68 as modified herein will provide the requisite assurance of non-harmful connection of such equipment.

33. Main telephones, and PBX and key telephone equipment used in conjunction with the appropriate F.C.C. registered protective circuitry, and F.C.C. registered main telephones, and PBX and key telephone equipment may, following the effective date of this Order, be connected directly with the telephone network pursuant to the procedures set forth in the Part 68 rules, without benefit of carrier-supplied connecting arrangements. Carriers may continue to provide such connecting arrangements, if registered, and may require their use for equipment not registered with the F.C.C. or not used in conjunction with appropriate F.C.C. registered protective circuitry. Except as herein provided, carriers may not require the use of such connecting arrangements or other interface devices or arrangements for F.C.C. registered equipment or protective circuitry, and may not impose other tariff conditions contrary to the *Carterfone* policy without prior approval of the Commission.

Order

34. It Is Ordered, pursuant to Sections 4(i), 4(j), 201-205, 208, 215, 218, 313, 403, 404, 410 and 602 of the Communications Act, That Part 68 of the Commission's Rules and Regulations is amended as shown in the appendix hereto, effective May 1, 1976.

35. It Is Further Ordered, That this proceeding is Terminated.

Federal Communications Commission,
Vincent J. Mullins, *Secretary.*

Appendix

The Commission's Rules and Regulations (Chapter I of Title 47 of the Code of Federal Regulations) are amended as follows:

Section 68.2 is amended as follows:

Section 68.2 *Scope*

(a) Except as provided for in paragraphs (b) and (c), the rules and regulations in this Part apply to the direct connection after May 1, 1976 of all terminal equipment other than coin telephones, and PBX and key telephone equipment to the telephone network, for use in conjunction with all services other than party line service, and to the direct connection after August 1, 1976 of all terminal equipment other than coin telephones to the telephone network, for use in conjunction with all services other than party line service.

(b) Unless otherwise ordered by the Commission, all items of equipment, other than PBX and key telephone equipment, of a type directly connected to the network as of May 1, 1976 may be connected thereafter up to January 1, 1977—and may remain connected for life—without registration, unless subsequently modified.

(c) Unless otherwise ordered by the Commission, all PBX and key telephone equipment of a type

directly connected to the network as of August 1, 1976 may be connected thereafter up to January 1, 1977—and may remain connected for life—without registration, unless subsequently modified.

Section 68.310 is amended as follows:

Section 68.310 *Longitudinal Balance Limitations*

(a) *Technical Description and Application.* The metallic-to-longitudinal balance coefficient, BALANCE$_{m\text{-}l}$ is expressed as:

$$\text{BALANCE}_{m\text{-}l} = 20 \log_{10} \left| \frac{e_M}{e_L} \right|$$

where e_L is the longitudinal voltage produced across a 500-ohm longitudinal termination and e_M is the metallic voltage across the tip-ring interface of the input port when a voltage (at any frequency $200 < f < 4000$ Hertz) is applied from a balanced 600-ohm metallic source. The source voltage should be set such that $e_M = 0.775$ volts rms (0 dBm) when a 600-ohm termination is substituted for the terminal equipment. The minimum balance coefficient shall be equalled or exceeded at all values of dc loop current that the port under test of the registered equipment is capable of drawing when attached to the loop simulator circuit specified in these Rules. A test circuit that satisfies the above conditions and may be used for measuring the metallic-to-longitudinal balance coefficient is shown in Figure 68.310(a). The minimum balance requirements specified below shall be equalled or exceeded under all reasonable conditions of the application of earth ground to the registered equipment:

Sub-paragraph	Equipment state	Minimum balance requirement	Frequency range (Hertz)
(b)	Both on-hook and off hook.	60 dB 40 dB	200 to 1000 1000 to 4000
(c)	on-hook	60 dB 40 dB	200 to 1000 1000 to 4000
	off-hook	40 dB	200 to 4000
(d)	off-hook	40 dB	200 to 4000
(e) voice equipment	Both on-hook and off-hook	60 dB 40 dB	200 to 1000 1000 to 4000
(e) data equipment	on-hook	60 dB 40 dB	200 to 1000 1000 to 4000
	off-hook	40 dB	200 to 4000
(f)	off-hook	40 dB	200 to 4000
(g)	Both on-hook and off-hook	60 dB 40 dB	200 to 1000 1000 to 4000
(h)	off-hook	40 dB	200 to 4000

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(f) *Registered Protective Circuitry for Ground-Start Applications.* These criteria shall be met with either terminal of the interface to other equipment connected to earth ground. The interface to other equipment shall be terminated in an impedance which will be reflected to the telephone connection as 600-ohms in the off-hook state of the registered protective circuit. Figure 68.310(e) shows the interface of the protective circuitry being tested and the required arrangement at the interface to other equipment.

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Section 68.312(a) is amended as follows:

Section 68.312 *On-Hook Impedance Limitations*

(a) Limitations on individual equipment intended for parallel operation on loop-start telephone facilities, other than PBX equipment:

DISSENTING STATEMENT OF
COMMISSIONER BENJAMIN L. HOOKS

In Re: Docket No. 19528 (PBX Interconnection)

We should not be extending the registration requirement to PBX equipment without first having examined the social and economic impact of this decision. I expressed similar views in *Mebane Home Telephone Company*, 53 FCC 2d 473, 484 (1975) (dissenting opinion), and in my separate statement concurring in the *First Report and Order* in this Docket, 56 FCC 2d 593, 622 (1975). I see a clear difference between PBX and "data and ancillary devices," as the latter term was used in the *First Report and Order*. Answering systems, computers and their associated terminal equipment are not the traditional service offerings of telephone companies although admittedly they may be closely related, functionally and in design, to more familiar apparatus. "Data and ancillary devices" are new conceptions, which generally do not offer—except, perhaps, for extension telephones—direct competition with the long-standing service offerings of telephone companies. Given a policy judgment that free competition in data and ancillary services will promote the public interest, the registration requirement established in the *First Report and Order* provides one method of safeguarding the switched network from technical harm, although more effective methods may certainly exist.

But how does one distinguish between newfangled terminal equipment and, for example, an extension telephone or any other traditional telephone equipment? The

short answer is that one cannot distinguish on technical basis alone. Despite an apparent intuitive distinction between old-fashioned devices like extension telephones and modern-day exotica like an IBM 370/168, there are, technically, very few apparent grounds for making any distinction. Accordingly, in the *First Report and Order*, we applied the registration requirement to all equipment connected to subscriber loops, including extension telephones. I was dubious about taking this decision until our studies on the economic impact of interconnection were completed;[1] but I also recognized that the boundary between extension telephones, on the one hand, and innovative terminal equipment on the other was difficult and should be addressed more fully in another context. In light of this practical difficulty, I concurred in the *First Report and Order*.

But today we take a further step, in which the practical distinctions that dogged the *First Report and Order* do not appear. Most PBX equipment is not connected to ordinary customer loops. It is connected directly to carrier trunks. Hence, it can be distinguished, at least technically, from both extension telephones and data and/or ancillary

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[1] In my dissent in *Mebane, supra*, I cited some of the initial comments in Docket No. 20003. More comments having been filed, it becomes obvious that reconciliation of the various self-interested studies, the methodologies and conclusions therein, will be impossible; so acute are the divergencies. Even the Commission, which is all but irreversibly down the road with its policies (this instant action being merely the latest manifestation) cannot be said to be wholly neutral on the outcome of Docket 20003. Accordingly, because the social and economic issues loom so large with respect to our communications system, I doubt that I or the public can be satisfied with anything but an independent analysis of the issues by a disinterested, qualified observer, *e.g.*, a "think tank" which is not financially or ideologically tethered to the views of the participating parties. It is not a question of not trusting the analysis of the present protagonists, private or governmental. But, where I come from we have an expression: "Trust your sister—but cut the cards."

terminal gear. While the *First Report and Order* could be justified as further opening the door to growth in new and innovative communications services by creating comprehensive rules for terminal interconnection, today's decision cannot be explained on that ground. Although it may lead to rearrangements of existing network facilities, and correlatively of existing rate structures, the application of the registration requirement to PBX seems less likely to produce new innovation and growth in the short run, and probably would have an immediate detrimental impact on the cost and availability of telephone service to the public. At least from our present situation of limited and incomplete information on the general economic effects of our interconnect policies on the efficiencies of operating a telephone company, the risk of such detrimental impact is unacceptably great in the context of the present case, considering the relative costs and benefits.

I must emphasize that the Commission, if it followed my counsel of caution on this matter, would in no way be acting to the prejudice of any future action it might wish to take. I do not suggest that it would never be appropriate to do what the majority does today; I only say that it would make more sense to keep our options open.

One further point requires mentioning. In my separate statement concurring in the *First Report and Order*, I said that I doubted the efficiency and good sense of applying the registration program to carrier-supplied equipment. Carriers have no reason to design equipment which will snarl the switched network, and every reason not to. My views on this matter have not changed; this application of the registration program still does not make sense.

For the foregoing reasons, therefore, I respectfully dissent.

F.C.C. 76-134

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D. C. 20554

Docket No. 19528

In the Matter of

PROPOSALS FOR NEW OR REVISED CLASSES OF INTERSTATE AND FOREIGN MESSAGE TOLL TELEPHONE SERVICE (MTS) AND WIDE AREA TELEPHONE SERVICE (WATS)

Memorandum Opinion and Order

(Adopted: February 1, 1976;

Released: February 13, 1976)

BY THE COMMISSION: CHAIRMAN WILEY ISSUING A STATEMENT IN WHICH COMMISSIONERS REID, QUELLO, WASHBURN AND ROBINSON JOIN; COMMISSIONER HOOKS CONCURRING IN THE RESULT.

1. In a First Report and Order herein, released November 7, 1975, 56 F.C.C. 2d 593, the Commission established a registration program designed to allow users of the nationwide telephone network to connect terminal equipment other than PBX's, key telephone systems, main station telephones,[1] and coin telephones to the network without the need for carrier-supplied connecting arrangements, provided they comply with the standards incorporated in the registration program to protect the network from harm. The standards and registration procedures are contained in a new Part 68 of the Commission's Rules.

2. Petitions for reconsideration of various aspects of

[1] A final decision on the Commission's planned inclusion of PBX's, key telephone systems and main station telephones in the registration program will be announced in the near future.

the First Report and Order were filed by the Bell System Companies (Bell), GTE Service Corporation (GTE), Continental Telephone Corporation, Rixon, Inc., Computer and Business Equipment Manufacturers Association (CBEMA), and Exxon Enterprises, Inc. (Exxon). We have also received a "Petition for Amendment of Part 68 of FCC Rules" filed by Communication Certification Laboratory, and comments filed by T.A.D. Avanti, Inc., Gaines M. Crook and Associates, J. P. Neil, Interface Technology, Inc., Guardian Industries, Inc., and Phone Mate, Inc. Oppositions to one or more of the petitions for reconsideration were filed by Bell, GTE, CBEMA, Exxon, IBM, the Central Committee on Telecommunications of the American Petroleum Institute (API), General DataComm Industries, Inc., the Independent Data Communications Manufacturers Association, Inc. (IDCMA), the North American Telephone Association (NATA), and DASA Corporation. Replies have been filed by Bell, GTE, Rixon, CBEMA, and Exxon. Also before us at this time are separate motions to stay filed by Bell and Rixon, and oppositions to these motions to stay filed by NATA, Utilities Telecommunications Council, API, IDCMA, Exxon, and CBEMA. We also have a Memorandum filed by the United States Department of Justice opposing both AT&T's Motion For Stay and AT&T's and GTE's petitions for reconsideration. All of these pleadings and comments will be considered herein.

Petitions for Reconsideration

3. The telephone companies (Bell, GTE, Continental) unanimously request the Commission to reconsider that portion of the First Report and Order which applies the registration program to carrier-supplied equipment. They are joined in this request by Rixon, Inc.—a manufacturer which supplies the independent (non-Bell) telephone industry. They argue, *inter alia*, that carrier-supplied equipment should be exempt from the registration program be-

cause the telephone companies are already subject to pervasive regulation at both the state and Federal levels, no purpose would be served by including carrier-supplied equipment, the registration requirement would impose additional costs on the telephone companies without any benefits, and there is no need to require registration of carrier-supplied equipment in order to obtain any needed information since the Commission is already empowered under Section 218 of the Communications Act to obtain any needed information from the carriers it regulates. None of the arguments raised by the carriers is new—all have been raised in earlier pleadings. In our First Report and Order we concluded that carrier-supplied equipment should be included in the registration program and gave three principal reasons for this conclusion:

(a) Carrier-supplied terminal equipment possesses the same *potential* for harm to the network as does customer-supplied equipment.

(b) The information provided by the carriers in their registration applications will be of considerable aid to the Commission as a benchmark against which other applications may be judged.

(c) When one participant in a competitive market is subject to regulatory constraints while another is not, there exists the possibility of using the registration, notification and complaint standards and procedures for competitive advantage.

In reaching our conclusion that carrier-supplied equipment should be included in the registration program, we considered all the pleadings, comments, and other submissions of the carrier parties as well as other interested parties. The recent restatements (in the petitions for reconsideration) of the same arguments which we have previously considered do not persuade us that our original conclusion was incorrect. We state in our First Report and Order our expectation, in view of the relatively

straightforward nature of the registration requirement, that the program would be relatively inexpensive and easy to implement. Based on representations in GTE's petition for reconsideration, our expectations appear to be borne out. GTE has stated that "the GTE telephone operating companies do not intend to make any registration applications nor do we expect other carriers to be so doing . . . GTE telephone operating companies would attempt to purchase only registered equipment." As has been noted by GTE, individual telephone companies are not required to re-register equipment which has already been registered by the telephone company's manufacturer-suppliers.[2] Thus the expense or inconvenience to individual telephone companies, if any, should be minimal. Furthermore, while it is no doubt true that the carriers and their affiliated equipment manufacturers have a strong interest and incentive in supplying safe equipment, the same can be said of most independent suppliers as well. The paramount concern must be the safety and integrity of the network, not the convenience or financial interests of any private party. Given the wide number of suppliers of many different types of equipment to about 1600 different carriers, it appears that the purposes of preventing harm are best served by registration of all equipment.

4. Both Bell and GTE have objected to the inclusion of extension telephones in the registration program. They complain that no notice was provided that extension telephones would be included in the registration program and that they therefore did not submit comments specifically

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[2] Since the vertically integrated manufacturers of Continental Telephone Corporation and GTE are currently engaged in the business of selling terminal equipment to the general public as well as to their affiliated telephone companies, we would expect their terminal equipment to be registered in any event. Furthermore, to the extent that Continental and GTE purchase terminal equipment from outside suppliers, they will likely be acquiring registered equipment, since many of their suppliers already sell to the general public.

directed to extension telephones. GTE also argues that there should be no inclusion of extension telephones in the registration program until the economic issues in Docket No. 20003 have been concluded. Bell further points out that since there is no difference between extension telephones and main station telephones, extensions should have been excluded from the registration program for the same reason that main station telephones were excluded. As we stated in our First Report and Order,[3] we will not delay action in this proceeding merely because of the pendency of the broad economic inquiry in Docket No. 20003. In our First Report and Order we found that there is no valid technical distinction between extension telephones and other ancillary devices. Neither Bell nor GTE has disputed this finding, nor have they even alleged that the technical standards adopted in the First Report and Order, are not equally applicable to extension telephones. Thus, we conclude that extension telephones were properly included within the scope of the registration program.

5. The large number of petitions for reconsideration and responsive pleadings filed (see paragraph 2 above) concern nearly every aspect of the registration program. Although we have considered all of the matters raised by these pleadings, we will discuss only those matters concerning rules which we believe need change or clarification at this time. We will cover the matters raised in these pleadings in the order in which they appear in the Part 68 Rules.

6. We note that in its reply to the various oppositions to petitions for reconsideration, filed January 22, 1976, Bell, for the first time, made substantive affirmative comments on and proposals for changes to the technical standards (Subpart D of Part 68 of the Commission's Rules) promulgated in the First Report and Order. In an Order released January 23, 1976 herein, Bell's late-filed proposals were treated as amendments to its earlier-filed

[3] 56 F.C.C. 2d 593, 600 (1975).

petition for reconsideration and were accepted for filing. This Order also granted interested parties an opportunity to file comments on or oppositions to the Bell proposals by February 16, 1976, and allowed Bell to file a reply by February 26, 1976. In view of these late-filed pleadings, certain aspects of the registration program, concerning the technical standards contained in Subpart D of Part 68 of the Commission's Rules, will not be acted on at this time, as is indicated below.

Section 68.2 *Scope*

7. Certain parties have commented that the rules are ambiguous as to which types of terminal equipment are included in the registration program and that the rules should be more specific as to both included and excluded types of terminal equipment. In this respect, we believe the rules are clear that *all* types of terminal equipment are included unless specifically excluded. To help alleviate further confusion, we note that although PBX's and key telephone systems are specifically excluded from the registration program at this time, ancillary equipment connected to such systems is not encompassed within this exclusion.

8. Rixon has commented that MODEMS (datasets) should not be encompassed in the scope of Part 68 on the theory that notice was not given of the inclusion of such equipment. This claim is specious, and we reject it. First, the original Notice of Proposed Rulemaking in Docket No. 19528, 35 F.C.C. 2d 539 (1972) encompassed alternatives to the *Carterfone*-initiated tariff revisions effective January 1, 1969 which revisions specifically included a requirement for a protective coupler for data applications. Second, the Chief Engineer's proposal on which we invited comment in our First Supplemental Notice in Docket No. 19528, 40 F.C.C. 2d 315 (1973) encompassed all terminal equipment, including MODEMS (datasets). Third, the Joint Board's Recommended First Report and Order and

the California P.U.C.'s General Order, both of which included data equipment within their scope, were set for comment, 53 F.C.C. 2d 219 (1975), and our First Report and Order was issued after these comments were analyzed. Finally, the Commission explicitly indicated that consideration of alternatives to the data protective device, the "ADAA" (automatic data access arrangement), was in issue in Docket No. 19528, 42 F.C.C. 2d 647, 651-52 (1973).

9. In footnote 36 of our First Report and Order, we stated that "Part 68 of the Commission's Rules and Regulations is not applicable to terminal equipment connected to the telephone network prior to the effective date of these rules," i.e., April 1, 1976. A number of parties have expressed concern about the applicability of this "grandfather" provision. Bell and Rixon argue that if the rules are to be applied to carrier-supplied equipment, then they should apply only to new models or types of carrier-supplied equipment. There is strenuous opposition to this proposal on the grounds that this approach would effectively eliminate carrier participation in the program for years to come. Questions have also been raised as to the effect of disconnection of "grandfathered" non-registered equipment after April 1, 1976, and whether such equipment would have to be registered before being reconnected. GTE complains that the "grandfather" provision does not cover the use of inventories of unregistered terminal equipment. Therefore, GTE suggests that the "grandfather" provision be expanded to include equipment in telephone company inventory. GTE's request is supported by both General DataCom and IDCMA.

10. We have given careful consideration to these arguments, and have concluded therefrom that Section 68.2 should be amended. The basic purpose of this Section is to afford proper recognition to the millions of items of terminal equipment—produced by both carrier-affiliated and independent manufacturers—which are now and have been directly connected to the network with no evidence of

having caused harm thereto, by granting them immunity from the registration requirements. We agree with GTE that this immunity should be extended to include inventory items of equipment now afforded direct connection privileges—including independently-manufactured equipment —and shall so order. We also believe it reasonable to assume, at least for the relatively uncomplicated single-circuit devices presently covered by this program, that the basic design and manufacturing standards employed for presently-connected devices are adequate to protect the network from harm. Accordingly, while we find it necessary that future production runs of such devices be registered—in order that appropriate corrective actions (e.g., de-registration, recall, or other procedures) may be taken in the event that design or manufacturing standards are allowed to fall—we believe the initial registration procedures for these types of devices can be greatly simplified. Finally, we recognize the need to afford some period of transition following the effective date of our rules, during which the various suppliers may bring their equipment into compliance, secure registration, and dispose of existing inventories in a reasonable manner. We anticipate that most inventories should be exhausted by January 1, 1977, and shall therefore defer until such date the time by which all new equipment directly connected to the network *must* be registered. The effective date of the rules, after which properly registered equipment *may* be directly connected, will be deferred until May 1, 1976 to provide adequate time for further consideration of the technical standards of Part 68 (See paragraph 31 below).[4]

11. Therefore, our approach is summarized as follows:

(a) All items of equipment connected to the network as of the effective date of the rules (now May 1,

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[4] **In addition to the changes adopted herein, we intend to closely monitor this program as it evolves and to make further adjustments as necessary and appropriate to ease any undue administrative burdens on the parties or the Commission.**

1976—see paragraph 31 below) may continue to be so connected without registration for the life of the equipment, unless subsequently modified.

(b) All items of equipment of a type directly connected to the network as of May 1, 1976 may be connected thereafter until January 1, 1977. After that date such equipment may be connected only if properly registered. However, in order to minimize the burden of registration for this category of equipment we will provide for a short form registration. In essence, this will consist of providing the identification type of information contained on the first page of Form 730 plus certification that the equipment has been directly connected to the network and meets the standards of Part 68. Detailed information and test results need not be submitted unless specifically requested by the Commission.

(c) All items of equipment of a type *not* directly connected to the network on May 1, 1976 may thereafter be directly connected upon grant of registration by the Commission. As an option, such equipment may also be connected pursuant to a continuation of present tariff provisions until January 1, 1977.[5]

In general, we believe these changes will largely satisfy the objections raised and will minimize the impact of our registration program on all segments of the industry, while fully satisfying the basic requirements for network protection.

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[5] Carriers will be required to modify their tariffs so as to provide for interconnection pursuant to the registration program on May 1 and thereafter. Also, the tariffs shall specify that unregistered equipment may be connected between May 1, 1976 and January 1, 1977 pursuant to tariff provisions in effect prior to May 1, 1976.

12. One matter raised in Bell's January 22, 1976 filing deserves comment at this time. Bell argues therein that the scope of Part 68 should exclude data terminal equipment and protective devices pending the resolution of Docket No. 19419, and cites our language in the First Report and Order concerning our maintenance of the *status quo* in support. This position misconstrues our intent as expressed in paragraph 39 of the Order. We indicated therein that we are establishing rules for limiting signal power which achieve the same technical result as the present data access arrangements, without prejudging the necessity for this technical result, pending the outcome of Docket No. 19419. It is only in that sense that we spoke of maintaining the *status quo*. We recognize that the present data access arrangements and telephone company-provided data terminal devices (datasets) do not employ a programmable data plug, and, rather, use wiring or adjustment by telephone company personnel at the time of installation to achieve the same technical result of signal power limiting as is established by our rules. In order to minimize discontinuity in the provision of data service in the interim period during which the new programmable jack/plug design is being arrived at, and during an additional time period which will be necessary to start production of the programmable jacks and plugs, and equipment and circuitry to be used therewith, we are establishing an alternative in addition to the procedures of Part 68 applicable to data equipment which will have the effect of continuing the presently-effective tariff provisions relating to data equipment. Until design of a programmable jack and plug is arrived at by the cooperative action discussed in paragraph 13, *infra.*, or a design is precribed by the Commission, and for six months thereafter: (1) unregistered customer-provided data equipment may continue to be directly connected with the telephone network through a telephone company-provided data access arrangement, which data access arrangement need not comply with Sections 68.104 and 68.308(b)(2); and (2) telephone company-

provided data terminal equipment need not comply with Sections 68.104 and 68.308(b)(2).

Section 68.104 *Standard Plugs and Jacks*

13. Numerous parties have commented in a variety of ways on the standard plug and jack requirement. Some parties have suggested different types of special arrangements which they feel may be a desirable alternative to standard plugs and jacks in certain situations. GTE has suggested that carrier-supplied equipment be exempt from this requirement. A Public Notice was released on January 21, 1976 (Mimeo No. 60105) scheduling a series of informal industry meetings on contemplated uniform national standards for plugs and jacks to be used in conjunction with registered terminal equipment. While we affirm the basic policies set out in Section 68.104 and paragraph 49 of the First Report and Order, we will not make any changes to Section 68.104 at this time, because of the pendency of these meetings which began on February 9, 1976. In a later Order, we will make such changes as are appropriate to reflect the agreements which we expect will be voluntarily arrived at by cooperative action between the carriers and the terminal equipment industry.[6]

Section 68.106 *Notification to Telephone Company*

14. Because of ambiguities in its original wording, we are modifying this section to make clear that a customer must, before connecting any terminal equipment, notify the telephone company of *each line* to which connection is to be made. Thus if a customer plans to use portable terminal equipment, he may give a "blanket" one-time notification for a number of different lines. It is not necessary for a customer to renotify the telephone company each time the same piece of equipment is disconnected

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[6] See paragraph 49 of our First Report and Order, *supra* at 611.

and reconnected.[7] Furthermore, once notice has been given, it is not necessary to await the telephone company's response before making the connection.

15. Exxon, which markets portable facsimile transceiver terminals, has requested that any terminal equipment with a Ringer Equivalence Number less than .01 (or some other very small number) be exempted from the notification requirement. Exxon asserts that since the Ringer Equivalence Number would effectively be zero, there would be no necessity for telephone repair or maintenance personnel to handle a "pretrip" or "false trip" problem resulting from use of such equipment. Exxon appears to be particularly concerned that the portability of its equipment would be impaired unless its suggested exemption is adopted. We believe that with the clarifications set out in the previous paragraph, the exemption for portable terminal equipment with a low Ringer Equivalence Number is unnecessary. Should operating experience indicate the desirability of exempting any class of terminal equipment from this notification requirement, we would entertain an appropriate petition for amendment of this rule.

16. GTE points out that in paragraph 50 of the First Report and Order, the Commission stated that the notification requirement would, among other things, "enable the telephone companies to have at their disposal certain statistical information regarding interconnection (which may at a future date be required to be furnished this Commission)." 56 F.C.C. 2d 593, 611 (1975). GTE complains that, "until the FCC gives a more specific indication of its information desires, GTE cannot begin to . . . comply with the Commission's directive." GTE has completely misunderstood the Commission's intentions. We wish to make

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[7] However, once a piece of equipment is permanently disconnected, i.e., with no intention of reconnecting it, notice of disconnection should be made.

clear that, with respect to the collection of statistical information, we are imposing no obligations on telephone companies at this time and no action by telephone companies is presently required.

17. Bell has proposed that a new section be added which requires customers to notify the grantee that the customer has acquired terminal equipment manufactured (or assembled, etc.) by the grantee. We believe that this proposal is consistent with good business practice and we encourage manufacturers to take all steps necessary to keep accurate records of the purchasers of its equipment. However, at this time, we are not convinced that it is necessary for us to impose this as a requirement for registration.

Section 68.200 *Application for Equipment Registration*

18. Part 68 of the Commission's Rules requires that three types of filings be made with the FCC: original applications, modification applications, and notice filings. All such filings shall be made on FCC Form 730,* and at the top of the form a caption will appear indicating whether the filing is an original application, a modification application, or a notice filing. An original application for equipment registration shall be filed when the equipment has not been the subject of previous FCC registration. If previously registered equipment is changed in a manner which affects compliance with the requirements of Subpart D of Part 68 of the Commission's rules, a modification application shall be filed. Such an application should contain information necessary to associate it with the original application (e.g., registration number, name, etc.) and only such technical information as is changed. If previously registered equipment is changed in a manner which does not affect compliance with the requirements of Sub-

* It is expected that, following approval by the General Accounting Office, FCC Form 730 will be available in April 1976. Prior to the availability of this form, no applications will be accepted for filing.

part D of Part 68 of the Commission's rules, a notice filing shall be made (see Section 68.214 of the Commission's rules). Such a filing should contain information necessary to associate it with the original application (e.g., registration number, name, etc.) and only such information as is changed. A notice filing will be associated with the Commission's records on the outstanding grant authorization. No Commission approval of a notice filing is required (although the Commission reserves the right to request further information of the grantee of the outstanding registration or to bring a complaint on its own motion, based on the contents of a notice filing). All applications and notice filings will be available for public inspection. Section 68.200 is being expanded and clarified to set out all relevant application procedures. It is also modified to provide for the short form filing as discussed in paragraph 11 above.

Section 68.202 *Public Notice*

19. Bell has suggested that, in addition to maintaining lists of equipment for which registration has been granted, the Commission should also maintain lists of equipment for which it has revoked registration. We agree and will modify Section 68.202 accordingly.

Section 68.204 *Comments and Replies*

20. An addition is being made to Section 68.204 to indicate that an original and three copies of all comments and replies are to be filed.

Section 68.206 *Grant of Application*

21. CBEMA has proposed that this section be amended to provide that an application will be deemed granted unless it is denied within 30 days from its filing or unless additional information is requested within 30 days of its filing. This proposal is supported by Exxon and opposed by GTE. We can understand CBEMA's concern that there

be no unnecessary delay in processing applications for registration, however we do not believe the public interest would be served by an automatic grant by default. We must therefore deny CBEMA's request. However, recognizing the problems which could be posed to industry by undue delays and the desire to plan production schedules, we commit ourselves to make every effort to process applications within 30 days of their receipt. However, at the start of the program some additional delays may occur because of the expected large volume of filings and normal start-up experience.

Section 68.210 *Denial of Application*

22. Bell has proposed an addition to this rule which would allow an application to be denied based solely on a showing that the device would be harmful. This change is unnecessary and Bell's request will be denied. The rules and regulations in Part 68 have been carefully drawn to encompass all the necessary standards to protect the network from harm. Denials will be based on non-compliance with these rules. If Bell, for any reason, believes this is not adequate, then its correct remedy is a petition to amend the rules, not the filing of oppositions to applications for registration.

Section 68.218 *Responsibility of Grantee of Equipment Registration*

23. This rule has been substantially enlarged to make clear all the responsibilities of grantees of equipment registration. Many of these additions were proposed by Bell and no one has opposed these proposals. Basically, these additions require the grantee to maintain records containing the information supplied to it in accordance with Section 68.108, and require the grantee to provide certain instructions to the users of its equipment. These additions are consistent with good business practice and will benefit the general telephone-using public.

Section 68.300 *Labelling Requirements*

24. GTE has proposed that the following statement be added to the label: "This is an FCC registered device. Due to differences in some local telephone company facilities, this unit may not function properly with your telephone service." Bell has proposed that the Registration and Ringer Equivalence numbers be combined into one number. These suggestions made by Bell and GTE would be both inappropriate and misleading to the user, and will not be adopted. However, we will adopt Bell's suggested change to Section 68.300(b)(3). We agree that a manufacturer's date stamp scheme could be used as an equally valid alternative to affixing a serial number to all registered equipment.

Subpart D *Technical Standards*

25. As was indicated in our First Report and Order, paragraphs 21 through 48 thereof, our technical specifications were drawn, primarily, from recommendations in the course of this proceeding and AT&T's course-of-conduct under the tariff revisions effective January 1, 1969 and subsequent changes thereto. We have received numerous comments on the technical standards (contained primarily in Subpart D of Part 68 of the Rules), including constructive and positive recommendations for specific changes. On January 22, 1976, Bell filed extensive and comprehensive recommendations for changes to our technical requirements, predicated upon the efforts of "a team of network and Bell Telephone Laboratories experts" who have "been dedicated since the issuance of the Order to a detailed, constructive analysis of the Rules."[9] Many of the recommendations contained in the January 22, 1976 filing impose less stringent requirements than are presently contained in Part 68. As noted in paragraph 6 above,

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[9] Letter from James R. Billingsley, Vice President of AT&T to Chairman Richard E. Wiley dated January 8, 1976, page 2.

these late-filed proposals were treated as amendments to Bell's earlier-filed petition for reconsideration and interest parties were granted an opportunity to comment on these proposals. In view of these late-filed pleadings, we feel that it would be inappropriate to modify the present technical requirements in Part 68 until we have received comments on Bell's January 22, 1976 filing. By following this procedure we believe the least restrictive specifications, consistent with our goal of protecting the telephone network from "harm," will emerge. We emphasize, however, that this late-date filing by Bell, which certainly could have been and should have been forthcoming during the 3½ years of Docket No. 19528 proceedings, will not be permitted to delay implementation of the registration program. An order reconsidering the technical standards will be issued shortly after all comments have been received.

26. GTE comments that our technical requirements are inadequate with regard to network control signaling and recommends that Part 68 be revised to add criteria and tests for each of off-hook DC resistance, dial speed and pulse ratio, and dual tone multi-frequency signals. We are declining to do so for the reasons stated in our First Report and Order, paragraph 22 thereof.

Petitions For Stay

27. Petitions for stay have been filed by both Bell and Rixon. In its petition, Bell argues that the requirements of the rules are "inappropriate," and unless modified, "full compliance by the telephone companies will be impossible unless a delay in the April 1, 1976 effective date is granted." Bell further states that full compliance will cost the Bell operating telephone companies over $200 million in the first year alone.[10] Lastly, Bell states that in order to prevent

[10] If PBX's, key systems, and main station telephones are included under the rules, Bell states these costs would rise to $350 million.

the unnecessary expenditure of effort and resources to attempt to comply with rules which may never be implemented in their present form, the Commission should stay the effective date of the rules "for at least 90 days after the Commission's action on the pending petitions for reconsideration or after the decision rendered by a court on appeal from such action by the Commission."

28. Rixon requests that the Commission stay the April 1, 1976 effective date "*only* as the date applies to the registration of carrier-provided equipment, until twelve calendar months after the Commission's decision on reconsideration. . . ." Rixon based its request on its need for an extended period to redesign its equipment to meet the FCC's technical standards; the possibility that the technical standards may change in response to future carrier analyses of them; and the inadvisability of including carrier equipment in the Registration Program on any basis.

29. Some parties opposing these petitions argue that any stay in the effective date of the registration program would be a further unnecessary delay in a program which is already long overdue. Other parties would not object to a short postponement not to exceed 90 days following final action on the petitions for reconsideration. In the words of the U.S. Department of Justice, "[t]he clear intent of these Petitions is to delay and undermine the effective implementation of the Registration Program. . . ."

30. It is well settled that in seeking a stay, the petitioner must satisfy the following four criteria:

> (1) Has the petitioner made a strong showing that it is likely to prevail on the merits of its appeal; (2) has the petitioner shown that without such relief it will be irreparably injured; (3) would the issuance of a stay substantially harm other parties interested in the proceeding; and (4) where lies the public interest? *Virginia Petroleum Jobbers Association* v. *Federal Power Commission*, 259 F. 2d 921 (D.C. Cir. 1958).

Neither Bell nor Rixon have directly addressed these four criteria. With respect to the likelihood of prevailing on the merits, neither Bell nor Rixon have indicated that they intend to appeal. In fact, Bell even concedes that "the registration program may be upheld and ultimately implemented." Since we are acting on the many petitions for reconsideration herein, and expect to take final action on the technical standards within one month, there is no need for a stay pending final Commission action. Bell's only statement regarding injury is its allegation, unsupported either by affidavit or explanation, that it would be required to expend some $200 million in order to fully comply with the rules. We do not believe that an unsupported estimate of cost by a party which has consistently opposed any registration program provides an adequate basis for further delay.

31. Because of the many changes in the Part 68 rules which are being made today and which will be made within the next month (on technical standards), we will delay the effective date of the rules until May 1, 1976. We believe that this postponement, together with the changes discussed and outlined in paragraphs 10 and 11, will obviate any need for additional delay in the effective date of the registration program. Together these changes will effectively postpone the implementation of the registration program for several months, and will minimize the impact of the program. Accordingly, a one month postponement in the effective date will be granted.

32. We have also used this opportunity to make a number of procedural changes and clarifications to the rules which we believe require no comment. At a later date some further clarifications and rule organization may be accomplished.

Order

33. In view of the foregoing, It Is Ordered, That the petitions for reconsideration listed in paragraph 2 above, are

GRANTED to the extent indicated herein and are DENIED in all other respects.

34. Pursuant to Sections 4(i), 4(j), 201-205, 208, 215, 218, 313, 314, 403, 404, 410 and 602 of the Communications Act, IT IS FURTHER ORDERED, That Part 68 of the Commission's Rules and Regulations is amended as shown in the appendix hereto effective May 1, 1976.

35. IT IS FURTHER ORDERED, That the petitions for stay filed by the Bell System Companies and Rixon, Inc., are GRANTED to the extent indicated herein and are DENIED in all other respects.

FEDERAL COMMUNICATIONS COMMISSION,
VINCENT J. MULLINS, *Secretary.*

APPENDIX

The Commission's Rules and Regulations (Chapter I of Title 47 of the Code of Federal Regulations) are amended as follows:

Section 68.2 is amended as follows:

Section 68.2 *Scope*

(a) Except as provided for in paragraph (b), the rules and regulations in this Part apply to the direct connection after May 1, 1976 of all terminal equipment other than coin telephones to the telephone network, for use in conjunction with all services other than party line service. *Note:* Pending further proceedings, the rules and regulations in this Part do not apply to PBX's, key telephone systems, or main station telephones.

(b) Unless otherwise ordered by the Commission, all items of equipment of a type directly connected to the network as of May 1, 1976 may be connected thereafter up to January 1, 1977—and may remain connected for life—without registration, unless subsequently modified.

Section 68.106 is amended as follows:

Section 68.106 *Notification to Telephone Company*

Customers connecting terminal equipment to the telephone network shall, before such connection is made, give notice to the telephone company of the particular line(s) to which such connection is to be made and shall provide to the telephone company the F.C.C. Registration Number and the Ringer Equivalence Number of the registered terminal equipment or registered protective circuitry.

Section 68.200 is amended as follows:

Section 68.200 *Application for Equipment Registration*

An original and two copies of an application for registration of terminal equipment and protective circuitry shall be submitted on FCC Form 730 to the Federal Communications Commission, Washington, D.C. 20554. An application for original approval of an equipment type directly connected to the network on May 1, 1976 may be submitted as a short form application (unless the Commission specifically requests the filing of complete information). All other applications shall have all questions on the form answered and include the following information:

(a) Identification, technical description and purpose of the equipment for which registration is sought.

(b) The means, if any, employed to limit signal power into interface.

(c) A description of all circuitry employed in assuring compliance with Part 68 including the following:

(1) Specifications, including voltage or current ratings, of all circuit elements, whether active or passive, in that part of the device which provides the isolation means at the interface.

(2) A circuit diagram containing the complete circuit of that part of the device which provides

the isolation means at the interface. If this portion of the device is subject to factory or field adjustment by the manufacturer's service agency, instructions for these adjustments shall be included. In addition, if the device is designed to operate from power supplied by electric utility lines, the circuit diagram shall also include that portion of the device connected to such lines, including the power supply to the internal circuits and whatever means are employed to isolate such utility lines from the internal circuits.

(3) If a service manual is submitted, and any of these items are covered therein, it will be sufficient to list the pages in the manual on which the information specified in the item(s) appear.

(d) The data required by Part 68 showing that the device complies with the test specifications and technical limitations described in Section 68.302 thru Section 68.314 inclusive. The Office of Chief Engineer may issue an OCE Bulletin describing acceptable test methods. Other test methods may be employed provided they are fully described in the report and found acceptable by the Commission.

(e) A photograph, sample, or drawing of the equipment label showing the information to be placed thereon.

(f) Photographs, 8" x 10" of the equipment of sufficient clarity to reveal equipment construction and layout and labels for controls, with sufficient views of the internal construction to define component placement and chassis assembly. Photographs smaller than 8" x 10" will be acceptable if mounted on paper 8" x 10" and of sufficient clarity for the purpose. Insofar as these requirements are met by photographs or drawings contained in service manual or instruction manual included with the application, additional pho-

tographs are required only to complete the requir showing.

(g) If the device covered by the application is designed to operate in conjunction with other terminal devices, to couple their signals from or to the interface, the application shall list the class(es) of such other devices, together with their pertinent specification details.

Section 68.202, par. (b) is amended as follows:

Section 68.202 *Public Notice*

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(b) The Commission will maintain lists of equipment for which it has granted registration and for which it has revoked registration.

Section 68.204 is amended as follows:

Section 68.204 *Comments and Replies*

Comments may be filed as to any application for equipment registration within 20 days of the date of the public notice of its filing. Replies to such comments may be filed within 10 days of the date of filing of such comments. All comments must be served on the applicant and all replies must be served on all parties filing comments. An original and three copies of all comments and replies must be filed.

Section 68.208, headnote and par. (a) are amended as follows:

Section 68.208 *Dismissal and Return of Application*

(a) An application which is not filed in accordance with the requirements of this Part or which is defective with respect to completeness of answers to questions, execution or other matters of a formal character, may not be accepted for filing by the Commission and may be returned as unacceptable for filing unless accompanied by a fully supported request for waiver.

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Section 68.218 is amended as follows:

Section 68.218 *Responsibility of Grantee of Equipment Registration*

(a) In applying for a grant of an equipment registration, the grantee warrants that each unit of equipment marketed under such grant will comply with all the applicable rules and regulations in Subpart D of this Part.

(b) The grantee or its agent shall provide to the user of the registered equipment the following:

(1) Instructions concerning installation, operational and repair procedures, where applicable.

(2) Instructions that registered terminal equipment or protective circuitry may not be used with party lines or coin lines.

(3) Instructions that when trouble is experienced the customer shall disconnect the registered equipment from the telephone line to determine if the registered equipment is malfunctioning and that if the registered equipment is determined to be malfunctioning, the use of such equipment shall be discontinued until the problem has been corrected.

(4) Instructions that the user must give notice to the telephone company in accordance with the requirements of Section 68.106.

(c) When registration is revoked for any item of equipment, the grantee is responsible to take all reasonable steps to ensure that purchasers and users of such equipment are notified of such revocation and are notified to discontinue use of such equipment.

A new Section 68.220 is added as follows:

Section 68.220 *Cross Reference*

Applications for registration of terminal equipment shall, in addition to the requirements of this Subpart, comply with the provisions of Subpart L of Part 2 of this Chapter.

Section 68.300, par. (b)(3) is amended as follows:

Section 68.300 *Labelling Requirements*

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(b) (3) Serial number or date of manufacture.

A new Subpart L of Part 2 is added to read as follows:

Subpart L—Registration of Telephone Terminal Equipment

Registration Procedure

Section 2.1300 *Cross Reference*

The general provisions of this part, §§ 2.909, 2.923, 2.927, 2.929, 2.934, 2.935, and 2.936 shall apply to applications for and grants of registration for telephone terminal equipment pursuant to Part 68 of this Chapter.

Section 2.1302 *Application for Registration Under Part 68*

An original application for registration and two copies shall be filed on FCC Form 730 by the party who will be responsible for the conformance of the equipment with the standards specified in Part 68 and shall include the information specified by the form and in Section 68.200 of this Chapter.

STATEMENT OF CHAIRMAN RICHARD E. WILEY

In which Commissioners Reid, Washburn, Quello and Robinson join

The Commission is confronted here with the difficult task of assuring that the benefits of full and fair competition will flow to the public, while minimizing to the greatest

extent possible the intrusion of bureaucracy into the marketplace. I am convinced that both these objectives can best be realized by the approach we have followed in this proceeding.

The necessity of a terminal interconnection program under FCC auspices is directly attributable to the carrier's failure to develop standards and procedures which would provide adequate protection against any harms to the switched telephone network from customer-supplied terminals. My hope and expectation is that an industry consensus can yet be reached which will permit "a withering away" or elimination of this regulatory program. Regrettably, the record reflects that such industry consensus is unlikely unless all participants in the terminal marketplace fall within the regulatory ambit. AT&T's proposal for an industry-derived protective module only came after the Joint Board's Recommended Decision to create a registration program. Similarly, AT&T's Technical Standards Proposal only came after the inclusion of carrier-supplied equipment within this registration program. Indeed, business realities suggest that if just non-carrier suppliers are required to register their equipment, there may be no incentive for constructive cooperation from carriers and their suppliers.

I remain hopeful that industry-wide agreements can be reached which will reduce or eliminate the need for FCC involvement, and more importantly, assure the unimpeded availability of the maximum communications options for the American public. The transitional period [illegible] all suppliers in today's decision, in addition to [illegible] tributes, provides a further opportunity for [illegible] and desirable industry-initiated solutions.

F.C.C. 76-235

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

Docket No. 19528

In the Matter of

PROPOSALS FOR NEW OR REVISED CLASSES OF INTERSTATE AND FOREIGN MESSAGE TOLL TELEPHONE SERVICE (MTS) AND WIDE AREA TELEPHONE SERVICE (WATS)

Memorandum Opinion and Order

(Adopted: March 12, 1976; Released: March 15, 1976)

BY THE COMMISSION: COMMISSIONERS LEE AND HOOKS CONCURRING IN THE RESULT.

1. In a First Report and Order herein, released November 7, 1975, 56 FCC 2d 593, the Commission established a registration program designed to allow users of the nationwide telephone network to connect terminal equipment other than PBXs, key telephone systems, main station telephones,[1] and coin telephones to the network without the need for carrier-supplied connecting arrangements, provided they comply with the standards incorporated in the registration program to protect the network from harm. The standards and registration procedures are contained in a new Part 68 and Part 2 of the Commission's Rules.

2. Petitions for reconsideration of various aspects of the First Report and Order were filed by the Bell System Companies (Bell), GTE Service Corporation (GTE), Continental Telephone Corporation, Rixon, Inc., Computer and Business Equipment Manufacturers Association (CBEMA), and Exxon Enterprises, Inc. (Exxon). We also received a "Petition for Amendment of Part 68 of FCC Rules" filed

[1] A final decision on the inclusion of PBXs, key telephone systems and mair station telephones in the registration program will be announced in the near future.

by Communication Certification Laboratory (CCL), and comments filed by T.A.D. Avanti, Inc., Gaines M. Crook and Associates, J. P. Neil, Interface Technology, Inc., Guardian Industries, Inc., and Phone Mate, Inc. Oppositions to one or more of the petitions for reconsideration were filed by Bell, GTE, CBEMA, Exxon, IBM, the Central Committee on Telecommunications of the American Petroleum Institute (API), General Data-Comm Industries, Inc., the Independent Data Communications Manufacturers Association, Inc. (IDCMA), the North American Telephone Association (NATA), and DASA Corporation. Replies were filed by Bell, GTE, Rixon, CBEMA, and Exxon. We also received a Memorandum filed by the United States Department of Justice opposing both Bell's and GTE's petitions for reconsideration.

3. In its reply to the various oppositions to petitions for reconsideration, filed January 22, 1976, Bell, for the first time, made substantive affirmative comments on and proposals for changes to the technical standards (Subpart D of Part 68 of the Commission's Rules) promulgated in the First Report and Order. In an Order released January 23, 1976 herein, Bell's late-filed proposals were treated as amendments to its earlier-filed petition for reconsideration and were accepted for filing. This Order also granted interested parties an opportunity to file comments on or oppositions to the Bell proposals by February 16, 1976, and allowed Bell to file a reply by February 26, 1976.

4. On February 13, 1976, the Commission released a Memorandum Opinion and Order herein (FCC 76-134) which acted on all aspects of the pleadings listed in paragraph 2 above except insofar as they related to technical standards. In view of Bell's late-filed proposals for changes to the technical standards, and the comments thereon, which had not yet been filed, the Commission reserved reconsideration of the technical standards for a later order (*see* paragraph 25 of our February 13, 1976 Memorandum Opinion and Order).

5. Comments on Bell's January 22, 1976 proposals for changes to the technical standards were timely filed by GTE, Rixon, IBM, NATA, CCL, IDCMA, CBEMA, Exxon, Phone Mate, Inc., Ford Industries, International Telephone and Telegraph Corp. (ITT), and Rollins Protective Services Company.[2] Bell replied to these comments on March 1, 1976.[3]

6. In reaching its decision herein, the Commission has carefully considered all the pleadings listed in paragraph 2 above, as well as Bell's January 22, 1976 filing and the responsive pleadings listed in paragraph 5 above. This Memorandum Opinion and Order will address these pleadings only insofar as they address the technical standards contained in Subpart D (and certain related definitions) of Part 68 of the Commission's Rules. To the extent that the various pleadings address any other matters—which were ruled upon in our February 13, 1976 Memorandum Opinion and Order—such matters will not be addressed again.

Section 68.302 *Environment Simulation*

7. *Vibration.* Bell has proposed substantial changes to our environmental simulation requirements. These requirements are intended to simulate various stresses to which registered terminal equipment and registered protective circuitry may be subjected during shipment and usage, 56 FCC 2d at 603. In proposed revisions to Section 68.302(a) Bell recommends reducing the vibration requirements from the present specified levels to levels which more accurately reflect the environment which the equipment will experience. Specifically, Bell recommends that the rule require conformance while the equipment is in the condition in which it

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[2] Late-filed comments were also received from the Office of Telecommunications, U.S. Department of Commerce; United States Independent Telephone Association (USITA); and T.A.D. Avanti, Inc.

[3] Bell was granted an extension of time by the Chief, Common Carrier Bureau.

is normally shipped or transported, based on its belief, which is supported in referenced publications, that the vibrations incurred in shipment are usually orders of magnitude higher than the peak levels experienced while in service, and its conclusion that the vibration environment to which the equipment is exposed during shipment is controlling. Ford Industries, CCL and IDCMA agree that Bell's proposed changes to Section 68.302(a) are reasonable; GTE wishes that such requirements be stated in terms of displacement, rather than the more usual "g-force" parameters which are normally used in vibration testing; and NATA views the less stringent proposal as applicable to larger-sized PBX and key system equipment as unsuitable, and requests that the Commission retain the present, more stringent, requirements.[4] Bell's rationale, and the listed references upon which it is predicated convince us that it is appropriate to accept the Bell-proposed Section 68.302(a) rule change in its entirety.

8. *Temperature and Humidity.* GTE proposes complex changes to the temperature and humidity requirements of Section 68.302(b). In its Petition for Reconsideration, filed December 8, 1975, GTE recommended that temperature and humidity requirements and tests from the Rural Electrification Administration Specification Document PE-41 be substituted for Section 68.302(b). In its comments on Bell's January 22, 1976 filing, which did not address the present Section 68.302(b) requirements (and therefore, presumably accepted them), GTE recommends that tests incorporating environmental specifications which have been utilized by GTE Automatic Electric Laboratories, Inc. "in evaluating the devices offered by the GTE companies" be adopted. These latter specifications are based on military procurement specifications, MIL SPECS. Nos. MIL-STD-202, MIL-STD-750 and MIL-STD-883. Aside from the fact that the new GTE recommendation is unauthorized under a pro-

[4] As the present scope of the program is not applicable to such equipment, NATA's comment is irrelevant at this time.

cedure which allowed comment on Bell's January 22, 1976 filing, and thereby did not allow other parties to the proceeding opportunity to comment thereupon, it appears to be inconsistent with GTE's own earlier recommendation.

9. We would note that the REA specifications, military procurement specifications, and GTE's own acceptance testing are directed at a somewhat different objective than the FCC's registration program. In each of these cases, the testing is designed to assure that equipment will operate properly if subjected to such testing. Moreover, these specifications are generally of the "accelerated life" variety which purposefully subject equipment under test to more stringent stresses than are expected to be encountered, to "shake out" production units of marginal performance. Our approach has been to accept Bell's judgment that Section 68.302(b) will adequately "shake out" telephone equipment which will be harmful. The temperature and humidity requirements were drawn from specifications imposed on conferencing devices and APCM devices, both of which have, for some time, been exempt (under the interstate tariffs at issue in this proceeding) from the requirement of a telephone company-provided connecting arrangement, if appropriately authorized.[5] It should be noted that the GTE telephone companies have concurred in the interstate tariff provisions which have permitted attested conferencing devices and conformed telephone answering devices to be directly connected with the telephone network. In the absence of a demonstration that these specifications have been inadequate in the past, we must reject any new proposal for more stringent temperature and humidity specifications than are presently contained in the rules.

10. *Shock.* Bell proposes substantial changes to Section 68.302(c), shock requirements, which are intended to set forth a program which takes into account the various weights and service uses of different equipment. First, Bell

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[5] *See* 56 FCC 2d at 603-04.

recommends shock tests for equipment packaged for shipment, which are intended to simulate expected stresses which occur when the packaged equipment is being handled and experiences accidental dropping on a loading platform, or when it is thrown into contact with a hard, unyielding surface. Then, Bell recommends additional unpackaged tests which are intended to simulate stresses which are reasonably expected during equipment handling, installation and normal usage.

11. Our stated objective in promulgating shock test requirements was to require that harm does not arise as a consequence of stresses which registered equipment will be subject to during shipment and usage. Bell's recommended changes to Section 68.302(c) are consistent with that objective, as Bell's rationale and the references stated therein indicate. GTE and IDCMA support Bell's recommended change, while NATA recommends that Bell's proposal be rejected and the present rule be retained, on the theory that the revised standards are unreasonably stringent for PBX and key telephone systems.[6] In view of the foregoing, we are adopting Bell's proposed Section 68.302(c) in its entirety.

12. *Metallic Voltage Surge.* In its January 22, 1976 filing, Bell proposed changes to Section 68.302(d), metallic voltage surge requirements, the purpose of which was to impose somewhat less stringent parameters than are presently contained in that section, which Bell explained are more representative of metallic surges which are likely to occur.[7] In

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[6] As we have already noted, such comment is irrelevant at this time. We would note, however, that many of the new shock test parameters are less stringent as applied to large equipment, such as PBX and key telephone systems, than are the present requirements of Section 68.302(c).

[7] In support, Bell cited two technical publications: D. W. Bode and P. A. Gresh, *Lightning Surges in Paired Telephone Cable Facilities*, 40 Bell System Technical Journal at 547-76 (March, 1961); and E. Benneson, A. J. Ghazi, P. Ferland,

addition, Bell sought clarification of the meaning of the sub-section by introducing a requirement of compliance when the specified surges are applied with a power source having a peak current capability of 100 amperes. GTE asserts that the proposed requirements are inadequate and recommends that the present values be retained.[8] NATA, T.A.D. Avanti, IDCMA, Rixon and Phone-Mate, Inc. all accepted Bell's recommendation, but both IDCMA and Rixon wished the resulting rule to be further clarified to indicate how such surges are to be applied to equipment (e.g., in all operational states, all normal states of connection to telephone facilities, with artificial connections made to assure test modes which may only arise under certain failure conditions, etc.).

13. Bell's March 1, 1976 Reply responds to the position of IDCMA and Rixon that the suggested rule change left the actual test requirements ambiguous, by requiring compliance (1) in any operational state which can affect compliance with the requirements of Part 68, and (2) any state in which the equipment might be connected to the telephone network and from which it is capable of transferring to an operational state through action required for the proper use of the equipment, provided that any such state can affect compliance with the requirements of Part 68. It is further proposed that the rule be changed to state "During application of the surges, equipment states which cannot be achieved by normal means of powering shall be achieved artificially by appropriate means." Finally, Bell suggests language which indicates that "fail-safe" testing is what is required; that is, that equipment can be placed in an operational failure mode by the testing so long as, in failing, it

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Lightning Surges in Open Wire, Coaxial and Paired Cable, Institute of Electrical and Electronics Engineers (IEEE) International Conference on Communications, June 1972 (the second reference reports the results of field measurements performed by Bell-Northern Research (Canada)).

[8] GTE cites the same two technical publications as Bell but reaches different conclusions therefrom.

continues to comply with the limitations of Sections 68.304 *et. seq.* in Subpart D or Part 68.

14. In addition, Bell responds to GTE's claims that the parameters should not be made less stringent by indicating that the Bell-proposed parameters are more representative of surges which are likely to occur and are therefore more appropriate. In view of Bell's broad experience with its nationwide telephone network facilities, we shall accept its basic conclusion that the newly-specified parameters are adequate to assure that the telephone network will be protected from harm. Consistent with our view that equipment shall conform to the limitations of Sections 68.304 through 68.314 under the application of foreseeable stresses, such as metallic surges, we shall adopt Bell's revised language with an additional clarification that a reasonably foreseeable state of connection of equipment to the telephone network is one where the commercial power connections are not made (e.g., a power cord has been withdrawn from a wall outlet), but the equipment is connected to the telephone network.

15. *Longitudinal Voltage Surge.* In its January 22, 1976 filing, Bell proposed changes to Section 68.302(e), longitudinal voltage surge requirements, the purpose of which was to impose somewhat less stringent paramaters than are presently contained in that sub-section. Bell explained that the present requirement is representative of surges that occur only under very unusual conditions, and even then only infrequently. However, Bell sought retention of the present requirement, with waveshape modification, as applied between the phase and neutral terminals of the ac power line connections. IDCMA, Rixon, T.A.D. Avanti and NATA support the changes, although, as in the case of metallic surge requirements, both IDCMA and Rixon wished clarification of how such surges are to be applied to equipment. GTE agrees in part with the Bell proposal, but seeks retention of what it feels are the present waveshape specifications as applied to phase and neutral ac power line

connections.[9] GTE cites the references and conclusions reached with regard to retaining the present metallic surges requirements as supporting its position with regard to longitudinal surges.

16. In its March 1, 1976 Reply, Bell responds to IDCMA and Rixon's position that the suggested rule changes left the actual test requirement ambiguous in a manner similar to its response to the analogous problem in the case of metallic surges. Also, Bell again responds to GTE's position (that the requirements should not be made less stringent) by reaffirming its belief that the specified parameters are representative of surges which are likely to occur. With the same caveat which we stated in regard to metallic surge requirements, we are adopting Bell's revised language.[10]

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[9] The present rule requires 2500 volt peak surges of 2 microsecond rise time to crest and 50 microsecond decay time to half crest. Bell proposes splitting the requirement to a severe test between the phase and neutral power connections (2500 volts, 2 microsecond rise time to crest and 10 microsecond decay time to half crest), and a less severe test between all other sets of connections (1500 volts, 10 microsecond rise time to crest and 160 microsecond decay time to half crest). GTE agrees with splitting the requirement into two sets, but wishes the decay time for the more stringent 2500 volts test "be retained" at 1000 microseconds, which, in fact, is *more* severe than the present requirement of 50 microseconds.

[10] IDCMA also raised the point that Bell's January 22, 1976 proposal required expensive test equipment with a specified peak current capability. Bell's March 1, 1976 language now specifies that "the peak current drawn from the surge generator must not be limited to less than 200 amperes by the capabilities of the surge generator." Clearly, since the revised language specifies "peak current," energy storage devices (such as capacitors with appropriate equivalent series impedance) could be charged to the specified voltages by power supplies of far less current capability than the specified 200 amperes and be used as part of the surge generator apparatus, if when discharged the resulting surge voltage conformed to the waveform specifications. In view of this, we feel that IDCMA's concerns have been met.

17. Related to the requirements of Sections 68.302(e) and 68.304 are Bell's proposed new definitions of "power connections" and "non-hazardous voltages." In its January 22, 1976 recommendations, Bell proposed that "power connections" be defined as the connections between commercial (primary) power and any transformer, power supply, rectifier, converter or other circuitry associated with registered terminal equipment. Then, Bell removed from this definition, conductors which distribute "non-hazardous power" *to* registered terminal equipment, or which distribute *any* power *within* registered terminal equipment. Finally, Bell sought (within the definition) to exempt Underwriters' Laboratory (UL) approved power sources, with open-circuit potentials below levels specified in a related definition, from a requirement of FCC registration. IDCMA notes that a simpler definition of "power connections" would be "the connections between commercial power and registered terminal equipment" but does not otherwise disagree with the proposed language. Phone-Mate, Inc. accepts the UL approval requirements, but NATA wishes such requirements to be in the alternative, i.e., either FCC approval or UL approval of power sources should be required.

18. In its March 1, 1976 Reply, Bell changes the definition of "power connections" somewhat to bring connections between registered protective circuitry and non-hazardous power, and conductors which distribute any power within registered protective circuitry into the exclusion, and to indicate that "green wire ground" (the grounded conductor in a three-conductor commercial power circuit) is not a power connection. Finally, Bell agrees with NATA's comment that either FCC approval or UL approval of non-hazardous power sources would be appropriate.

19. We agree with Bell's premise that a power source which has already reliably been evaluated by a laboratory such as UL to standards as stringent as ours need not be additionally evaluated by us. We feel that this result has

already been reached by the rules, as our registration requirement is that compliance with the limitations in Sections 68.304 and 68.306 (under certain stresses) be demonstrated. If UL, or any other laboratory, has performed tests which directly or inherently demonstrate compliance with our rules, then the results of such testing, in summary form, could be included as an exhibit in a registration application. As a practical matter, however, this approach does require FCC registration in addition to UL approval prior to the use of a non-hazardous power source. We are somewhat troubled that UL does not have an approval standard that is directly related to approval of non-hazardous power sources, although several UL standards incorporate such requirements. Until such time (if ever) that UL adopts a specific standard applicable to non-hazardous power sources, which we can incorporate by reference in our rules, we shall adopt the following requirement: connections between registered terminal equipment or registered protective circuitry and sources of non-hazardous voltage will be deemed as not being power connections if each such UL approved source of non-hazardous voltage which reasonably can be expected to be used with the registered terminal equipment or registered protective circuitry is identified in the application for registration of the terminal equipment or protective circuitry, and the UL standard number, and sections thereof to which such power source conforms which demonstrate compliance of the power source with Sections 68.304 and 68.306 of the rules are also listed. Each listed UL-approved power source will be listed in a grant of registration, and the registration grant will be conditioned upon the use of one of the listed power sources. In accordance with the foregoing, we are adopting AT&T's proposed definition of "power connections," we are modifying our Section 68.306 rules to accommodate non-hazardous voltage sources.[11]

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[11] We are slightly modifying the "power connection" definition to use the term "source of non-hazardous voltage."

Section 68.304 *Leakage Current Limitations*

20. In its January 22, 1976 filing, Bell proposed several changes to Section 68.304, leakage current limitations, which generally have the effect of making the requirements less stringent. Related thereto are proposed definitions of "power connections" (previously addressed), and "telephone connections." GTE, ITT, NATA, T.A.D. Avanti and IDCMA endorse the proposed changes, although IDCMA wishes further clarification, as in the case of surge requirements, of the requisite test procedures. Rixon wishes all leakage current limitations to be specified under the application of only 1000 volts, and cites certain UL standards as supporting its claim that 1000 volt rms testing is an adequate test of barriers designed to protect personnel from exposure to commercial power sources of 250 volts or less. Upon examination of one of the cited UL standards[12] we find that the dielectric breakdown specifications therein require 1000, 1500 and 2500 volt testing for equipment connected with power potentials less than 250 volts, and therefore conclude that Rixon's premise is erroneous.

21. Specifically, Bell proposed following our general approach of requiring adequate insulation between the telephone connections, power connections and exterior conductive surfaces, but clarified this requirement by separately listing connections to non-registered equipment (on the theory that connections to registered equipment will adequately be protected by such equipment itself conforming to the leakage current requirements). Bell then proposed lowering the test voltage required between the telephone connections and exposed conductive surfaces, and the telephone connections and connections to non-registered equipment, from its present level of 1500 volts rms to 1000 volts rms. Finally, Bell proposed changing the current limitation from 2.5 ma. rms to 10 ma. peak (about 3 times higher for

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[12] UL 114, ANSI X4.12-1970, dated October 9, 1970, Section 301, pp. 74-75.

sinusoidal signals) under the application of the specified voltages.

22. In its March 1, 1976 Reply, Bell clarifies its proposal by indicating that voltages should be applied to combinations of (1) telephone connections, (2) power connections, (3) exposed conductive surfaces on the exterior of such equipment, and (4) terminals for connection to non-registered equipment and points having a conducting path to the secondaries of any power supply. Bell responds to IDCMA's concerns about the requisite test procedures by requiring conformance in "all appropriate states of the equipment which could affect compliance" with the technical requirements of Part 68 of the Rules.

23. We are of the view that Bell's revised proposed language, in the main, adequately responds to the concerns of various parties and to the concerns which we expressed in the First Report and Order. However, we are somewhat troubled by the introduction of "points having a conducting path to the secondaries of any power supply" into the fourth category, as leakage current is required to be limited both between telephone connections and the fourth category, and between primary power connections and the fourth category. We would agree that a primary-to-secondary leakage current limitation under the application of 1500 volts is a reasonable requirement. In view of our disposition of Bell's suggested language accommodating non-hazardous voltage sources, *supra*, the requirement of demonstrating primary-to-secondary leakage current limitation in such sources becomes quite important. But, given that conformance to this requirement is demonstrated, there is no additional need for a secondary-to-telephone connection barrier, as the relevant concern which we expressed in the First Report and Order is that the telephone connections must be adequately isolated from primary power connections. If that isolation is demonstrated by primary-to-secondary leakage testing, no additional isolation is required. *See* 56 F.C.C. 2d at 605. In light of the foregoing, we are establishing a fifth

category—points having a conducting path to the secondaries of any power supply—and adding a requirement to the voltage table which specifies 1500 volts between points (2) and (5).

Section 68.306 *Hazardous Voltage Limitations*

24. In its January 22, 1976 filing, Bell proposed breaking hazardous voltage limitations into normal modes and failure modes (the present Section 68.306 requirement speaks only of failure modes). Under its proposed normal mode language, voltages applied to the telephone network other than intentional network control signals and supervision signals are limited by the Section 68.308 signal power requirements. This is consistent with our discussion of hazardous voltage requirements in the First Report and Order, 56 F.C.C. 2d at 606. Under its proposed failure mode language, Bell specifies an all-inclusive limitation of 70 volts peak after the first second, applied to a simulation of the resistance of a human body connected with the telephone connections, as being the failure mode voltage limit. Bell further proposes that a worst-case failure of equipment connected with registered protective circuitry be simulated by applying 300 volts rms to the circuitry, rather than the presently-specified 220 volts rms.

25. T.A.D. Avanti, Rixon, NATA and GTE concur in the revised language, although Rixon wishes clarification that testing may be destructive, and GTE wishes the additional words "and currents" added to the section. IDCMA, on the other hand, supports the present wording of Section 68.306 and feels that the proposed revision provides no additional protection, and contains vague standards which could not effectively be administered.

26. In view of the fact that, other than during network control signaling and supervision, voltages which would be applied to the telephone network are limited by the signal power requirements of Section 68.308, and are on the order of one volt rms, we agree that it is rational to distinguish

between normal and failure mode requirements in this rule. In its proposal, Bell incorporates a rather vague "consistent with the standards generally employed by the telephone companies" standard for the intentional (much higher) voltages associated with network control signaling and supervision. Consistent with the views expressed in our First Report and Order, 56 F.C.C. 2d at 602 (paragraph 22), that network control signaling compatibility can be assured by the provision of informational materials to equipment manufacturers by the carriers, we would expect that the "standards generally employed" will be thereby manifested to equipment manufacturers, which would obviate the problems which are posed by Bell's vague language.[13] Since Section 68.110(a) imposes an obligation on the telephone companies to provide information of this sort, we do not feel it necessary to change Bell's proposed language herein to remove this vagueness.

27. With intentional network control signals expected from the requirements of the section, there is no longer any reason to specify the voltage limitations as high as 135 volts dc and 140 volts peak for combined ac and dc, as these limitations are consistent with the network control signals used on certain telephone facilities. Therefore, AT&T's proposed reduction of the voltage limitation to 70 volts peak is appropriate, as it limits the possible prevalence of higher voltages on the telephone network to only those cases where it actually is necessary for network operation.[14]

28. In its March 1 response, Bell meets IDCMA's objections by indicating that only *one* unit is to be tested, in

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[13] Bell states that such standards will be made available by the telephone companies upon request.

[14] As was indicated in the First Report and Order, 56 F.C.C. 2d at 606-07, the higher levels which we originally specified are acceptable in the telephone industry. However, where possible, it is consistent with good engineering practice to limit voltages to lower levels than those which are considered hazardous.

accordance with its recommended requirement of protection against hazardous voltages as they may arise on connections to unregistered equipment, recognizing that such testing may be destructive. We are somewhat similarly revising the requirement of demonstrating that registered protective circuitry will adequately provide a barrier to hazardous voltages by requiring that at least *two* units be tested, one at 120 volts rms and one at 300 volts rms. This dual requirement is predicated on the belief that testing at 300 volts may stress components into a hazardous voltage-protective open circuit condition which they may not be stressed into upon the application of the more probable power cross with 120 volts rms. Therefore, we are requiring testing at both voltage levels.

29. Finally, consistent with our discussion of non-hazardous power sources (see paragraphs 17-19 above), we are setting forth separate requirements for the registration of such power sources. As was previously discussed, compliance with this requirement (and the therein-referenced environmental conditioning and leakage current requirements) may be demonstrated by the results of testing by a laboratory such as Underwriters' Laboratory if it is also demonstrated that such testing assures compliance with our requirements. Accordingly, we are adopting Bell's revised Section 68.306 language substantially in its entirety.

Section 68.308 *Signal Power Limitations*

30. *Loop simulator definition.* Inasmuch as the present signal power limitations are predicated on equipment performance measurable as connected with a loop simulator circuit (as well as longitudinal balance requirements), we shall address the loop simulator first. The loop simulator is intended to simulate the telephone network in such a manner that equipment may be connected to such a circuit for evaluation. The Commission had specified both a range of dc current, and an impedance for the loop simulator, both of which were intended to be fairly representative of the

telephone network as viewed by terminal equipment and protective circuitry connected thereto. Comments received seeking reconsideration indicated that there has been some confusion about the meaning of the Commission's language, and Bell accordingly suggests clarification by providing a definition which includes a schematic diagram of a typical loop simulator circuit. Additionally, Bell suggests that the impedance of the loop simulator, presently specified as 900 ohms in series with 2.14 microfarads, be changed to 600 ohms, resistive.

31. USITA comments that the suggested range of possible variation of loop resistance in the circuit should be increased above AT&T's recommended 200 ohms maximum to accommodate simulation of long loops. The Department of Commerce wishes tests to be performed both at the previously-specified impedance of essentially 900 ohms and at the newly-specified impedance of 600 ohms, on the theory that 900 ohms is more representative of long loops. We agree with Bell's response that its recommended circuit already accommodates long loops with regard to the purpose of establishing signal power and longitudinal balance limitations under Part 68 of the Rules. Accordingly, we are adopting Bell's definition of a loop simulator circuit.

32. *Power limitations.* Rather than reciting each issue raised in the various comments which relate to signal power limitations, we shall discuss Bell's revised Section 68.308 language, as contained in its March 1, 1976 filing, in light of the major concerns which were voiced, and in light of the First Report and Order.[15] Basically, Bell separates requirements on equipment which itself generates signal power, from requirements on equipment which passes signal power generated by other equipment connected thereto. It also sub-divides signal power limitations into those related to live voice signals (where there is statistical assurance of not

[15] This approach is adopted for clarity in this decision; of course, all comments were carefully considered in reaching the result herein.

exceeding the power limitations through the normal characteristics of human conversation), those related to voice equipment not generating live voice signals, those related to equipment containing internal network control signaling power sources, and those related to data equipment. Bell then recommends requirements on out-of-band energy (which are presently required by the interstate tariffs) where such requirements can easily be met by the equipment under test, without thereby incorporating a filtering requirement.[16] Finally, Bell recommends limitations on longitudinal voltage except during network control signaling; these additional limitations are required because the rules do not necessarily impose a requirement of a transformer in the voiceband path (which was used in the connecting arrangements, in part, to prevent the application of virtually all longitudinal voltage to the network), and absent a specific requirement of a transformer, longitudinal voltage must otherwise be controlled through the registration process.

33. There is no voiceband power limitation imposed on terminal equipment used for live voice signals, on the theory that the normal conversation mechanisms will adequately control such power (as has been the case in telephone set to telephone set communications on the network in the past). However, terminal equipment used for live voice signals is subject to out-of-band signal power limitations under the application of an *acoustical* input signal (applied to its microphone).

34. Voice terminal equipment and protective circuitry which contains signal power sources primarily intended for

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[16] This was in response to comments on Bell's January 22, 1976 proposal which could have been interpreted as requiring low-pass filtering. Such filtering has never been required, or performed, in the functionally-equivalent connecting arrangements used since 1969; rather, the telephone companies have relied upon prohibitory language in the tariffs, and information distributed to equipment manufacturers to (successfully) prevent out-of-band energy problems from arising.

network control signaling is required to limit such signal power sources (in normal operation) to one milliwatt averaged over any 3 second interval.[17]

35. Terminal equipment and protective circuitry which is connected to the telephone network at one port, but which has provision for through transmission of signal power from other equipment is required to provide essentially unity (or less) gain, which thereby assures that registration of equipment connected thereto will not be upset by gain in such a device.

36. *Out-of-band signal power.* Signal power above 3995 Hertz poses a problem of potential interference with telephone service. Since 1969, the telephone companies have employed connecting arrangements which pass energy above 3995 Hertz, and which do not employ components which specifically limit such energy (filters). Rather than employing "hardware" protection in the connecting arrangements, the telephone companies have used informational materials distributed to equipment manufacturers ("Technical References") as a means of informing such manufacturers to design equipment which does not generate out-of-band signals. In addition, there have been tariff provisions which specify the out-of-band signal limitations, and which could have been used to justify discontinuance of service to telephone subscribers using equipment which, in fact, did generate out-of-band energy in excess of the stated limits. No evidence has been presented of interference with telephone service as a consequence of the telephone companies' decision to not include specific hardware protection against out-of-band signal power.

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[17] The "normal operation" requirement is intended to cover the statistically unlikely case of a telephone subscriber depressing a TOUCHTONE® button for more than 3 seconds (such signals may well exceed one milliwatt) and not impose a requirement of signal power limiting components because of this possibility.

37. When Bell proposed, in its January 22, 1976 filing, to introduce out-of-band energy limitations, IBM and CBEMA commented that since there has been no protection against out-of-band energy in the past, there is no need to introduce such protection now in the FCC registration program. This somewhat misstates what has occurred in the past. It is true that the connecting arrangements do not contain specific components which limit out-of-band energy (filters), but they are sufficiently linear devices, in their through-transmission signal path, so as not to generate out-of-band energy through harmonic distortion.[18] In its March 1, 1976 filing, Bell responds to these criticisms by adopting what we feel is a rational approach.

38. Equipment which itself generates signals is required to conform to the out-of-band power limitations. This can easily be measured, and imposes no design requirements in addition to those already imposed since 1969. Equipment which provides a through transmission path for electrical or acoustic signal power is required not to generate harmonics of a 1000 Hertz input signal which violate the out-of-band power limitations (essentially, a linearity specification). This also can easily be measured, and continues the present effect of the telephone companies' sufficiently linear designs of their connecting arrangements. The specific requirements on signal power in the 3995 to 4005 Hertz band are variations on the afore-stated theme. Here, for equipment with a through transmission path, the attentuation in that path becomes important; the attenuation in the through transmission path between 600 and 4000 Hertz is required not to exceed by more than 3 dB the attenuation in that path at any frequency between 3995 and

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[18] Non-linearity in a through transmission path can generate frequency components at integral multiples of frequencies at the input of the path; thus, signals with no components above 3995 Hertz, at the input of a non-linear transmission path could emerge with frequency components *above* 3995 Hertz, and, if of sufficient amplitude, these *generated* components could violate the out-of-band energy limitations.

4005 Hertz. And again, for equipment which itself generates signal power (other than network control signaling), the requirement is that the equipment itself not generate power in the 3995 to 4005 Hertz band above a level 18 dB below the maximum permitted power in the voiceband.

39. *Data Equipment.* For the reasons discussed in the First Report and Order, 56 F.C.C. 2d at 607-09, we sought to provide assurance of data equipment compliance to both controlling specifications on voice-band signal power (pending the outcome of Docket No. 19419): a one milliwatt limitation measurable at the terminal equipment locations, and a 12 dB lower limitation measurable at the telephone company central office, both averaged over any 3-second time interval. As the various comments on signal power limitations for data equipment (and related comments on plug/jack requirements for data equipment) have pointed out, there are actually *three* techniques which will appropriately assure compliance with the two controlling specifications. These are *first*, a programmed signal power level (implemented through the use of a programmable data jack and plug, as discussed in the First Report and Order); *second*, an attenuated fixed level output (implemented through the use of jacks which incorporate attenuators to limit a fixed output level to a level which produces a −12 dBm signal power at the telephone company central office); and *third*, a fixed level output, sufficiently low in amplitude to be able to be used on substantially all connections with the telephone network.

40. As revised by its March 1, 1976 Reply, Bell proposes that the levels to which equipment is capable of being limited by the programmable data jack connections, to implement the first technique listed above, be programmed in 1 dB steps from −12 dB to −3 dB with respect to one milliwatt, as delivered to a loop simulator circuit; that the attenuated fixed level output be specified as no greater than −4 dB with respect to one milliwatt; and that the fixed level

output usable on substantially all telephone network connections be no greater than −9 dB with respect to one milliwatt. Manufacturing tolerances are permitted for individual units of equipment which have the effect of increasing the signal power levels in the first two of the above-specified cases by as much as 1.0 dB, provided that the signal power levels averaged overall production units are within the specified limits. However, in the third case above (the fixed level output usable on substantially all telephone network connections), manufacturing tolerances are not permitted, which would permit the −9 dB with respect to one milliwatt maximum to be exceeded.

41. We accept Bell's revised recommendations with regard to signal power limitations in all categories as reflective of the concerns manifested in the comments which we have received and of our own views as expressed in the First Report and Order, and shall adopt Bell's March 1, 1976 proposed language. We would note one caveat, at this point, to data equipment manufacturers, which will not appear in our rules. Since the mean attenuation of telephone loops is on the order of 3 dB, using the −9 dBm fixed signal power output level of universal applicability should, in the mean case, result in the maximum permitted signal power. However, many loops have greater attenuation than the mean level; therefore, in such loops, less than the permitted signal power level will result at the telephone company central office. This is consistent with the intent of the rules, as a manufacturer has the choice of optimizing the performance of data equipment by choosing to use a programmable plug/jack arrangement. An equipment manufacturer who chooses to use the −9 dBm fixed level means of connecting with universal voice jacks (e.g., portable data equipment such as facsimile equipment) is assuming the risk of non-optimal performance due to excessive attenuation on any given connection. Equipment designed in this environment should be designed accordingly.

Section 68.310 *Longitudinal Balance Limitations*

42. In its January 22, 1976 filing, Bell proposed relaxation of the present longitudinal balance requirements, coupled with a related redefinition of "longitudinal balance." Basically, Bell has differentiated the metallic-to-longitudinal balance coefficient, which relates to the probability that unbalanced equipment will *cause interference to* other telephone network users, from the present definition, which is a longitudinal-to-metallic balance coefficient, and which relates to the probability that the unbalanced equipment itself will be *interfered with*.[19] Since the metallic-to-longitudinal balance coefficient is relevant to the definition of harm contained in the rules, and the latter is not, Bell proposes substitution of this definition. We agree.

43. In its March 1, 1976 filing, in response to several comments on recommended test apparatus and on the specific parametric limits for longitudinal balance (as redefined), Bell presents a unified set of balance limitations for various equipment types, and for on-hook and off-hook states. With the exception of equipment used in conjunction with ground-start trunks (which in the quiescent state has circuitry connected with earth ground), all on-hook requirements are for 60 dB of balance in the 200 to 1000 Hertz frequency range. Off-hook balance is required to be greater than 60 dB between 200 and 1000 Hertz, and 40 dB between 1000 and 4000 Hertz for *voice* equipment, and 40 dB in this entire band (200 to 4000 Hertz) for *data* equipment. The reason for the 20 dB discrepancy in the 200 to 1000 Hertz band is that most voice power is concentrated below 1000 Hertz, whereas data equipment, if efficiently using the voiceband spectrum, more uniformly distributes signal power over the entire 200 to

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[19] It should be noted that the present definition of the longitudinal-to-metallic coefficient was drawn from a Bell specification and from the results of the F.C.C. advisory committees. *See* 56 F.C.C. 2d at 608-09.

4000 Hertz band.[20] Since the bulk of the voiceband power is in the 200 to 1000 Hertz band, a higher degree of balance is required to limit the expected interfering signals in other communications channels to the same levels as they are limited in the data specification, which will have lower driving signals in the same band.

44. A significant change from the present requirements of Section 68.310 is that the balance requirements, under Bell's proposed language, accommodate ground-start trunks, which use the intentional connections of the communications path with earth ground during certain signaling states, but not when actual voiceband energy is present.

45. We feel that Bell has presented a reasonable approach for the establishment of appropriate longitudinal balance requirements, which adequately responds to all comments which we have received on Section 68.310, and accordingly, we are adopting Bell's proposed language, as discussed above, for this rule, and for a related definition of "equipment port."

46. A related matter has come to our attention (during cooperative carrier-industry meetings on standardization of jack/plug designs) which we will address at this time. The scope of Part 68 clearly includes all ancillary equipment. Presently-available ancillary equipment falls generally into two categories—equipment which is connected in parallel with telephone facilities, and equipment which is connected in series with telephone facilities (interposed between the telephone network and other equipment, which may be customer-provided or telephone company-provided). The language of Section 68.104(a) is intended to accom-

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[20] *See* D. H. Hamsher, *Communication System Engineering Handbook* (McGraw-Hill, 1967) pp. 3-3 and 3-4 reproducing average speech spectra from N. R. French and J. C. Steinberg, *Factors Governing the Intelligibility of Speech Sounds*, Journal of the Acoustical Society of America, Volume 19, pp. 90-119 (1947).

modate series, or interposed connection, of ancillary equipment as it requires arrangement of a jack so that "if the plug connected thereto is withdrawn, no interference to the operation of equipment at the customer's premises which remains connected to the telephone network, shall occur by reason of such withdrawal." 56 F.C.C. 2d at 616. Thus, where a plug connected to a series jack is withdrawn, the jack is required to provide continuity which would permit the equipment with which ancillary equipment is operating to continue to operate.

47. A fundamental problem which surfaced at the plug/jack meetings was that the longitudinal balance limitations are predicated upon parallel connection of equipment. Where a series impedance is interposed on *one* telephone connection wire (e.g., tip or ring), that impedance upsets the longitudinal balance of the equipment with which it is in series, as perceived by the telephone network, although this equipment's balance, without an interposed series connection, is within the limits of Section 68.310. Additionally, the series connection may upset the net balance as perceived by the telephone network, through its capacitive coupling of one telephone connection wire to earth ground (which might be overcome by including a connection with the other telephone connection in a common cable to the series-connected equipment, in which case similar coupling characteristics to earth ground for both line wires might occur). Our dialer committee addressed this problem in the case of dialers, which are placed in series with one telephone line wire, by requiring the dialers to present less than one ohm of impedance when the telephone set associated therewith is in use for voice communications, and by requiring that the impedance between the interface leads and earth ground exceed certain defined limits (which thereby addressed the capacitive coupling problem). We are of the view that the limits of Section 68.310 adequately address the desired result which should be reached if the longitudinal balance of the combination of interposed equipment and other equip-

ment is measured, as presented to the telephone network. Based upon information in our files, the balance of a standard telephone set is on the order of the value specified in the First Report and Order, i.e. [120-20 $\log_{10}$ (f)]. This is a linear curve, of slope 20 dB/decade, which has values of 74 dB at 200 Hertz and 48 dB at 4000 Hertz, and therefore is *higher* than the limitations which we are adopting herein. In order to register series-connected terminal equipment, a manufacturer should construct a test apparatus which simulates the above-stated balance of a standard telephone set, interpose the series equipment under test through the use of its connecting cord and standard plug, cover the connecting cord between the plug and equipment with conductive foil connected with earth ground, and measure the longitudinal balance of the combination of the equipment under test and the telephone set simulator for conformance to the requirements of Section 68.310. We would entertain petitions for appropriate rule changes which would permit a more direct evaluation of the effects on longitudinal balance of series-connected equipment than we are adopting herein.[21]

Section 68.312 *On-hook Impedance Limitations*

48. The intent of our on-hook impedance limitations, as expressed in the First Report and Order, is to prevent the occurrence of "pre-trip" and "false trip," both of which would be perceived by an unknowing caller as a telephone call which did not go through. As many parties have commented, the requirements of Section 68.312 address 20 and 30 Hertz ringing, but do not address ringing at different frequencies, which ringing is still in use, for single-party telephone service, in many independent telephone companies' areas, although not in the Bell System. In an attempt to set requirements which would be accommodated by the telephone companies' long-standing "ringing

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[21] Bell has indicated that an appropriate petition for rule-making on this matter is being prepared.

bridge" practices, we specified the use of on-hook impedances of standard telephone set ringers.[22]

49. Comments on Section 68.312 generally fall into 3 categories: *first*, some parties comment that we should accommodate "frequency ringing" (i.e., ringing at frequencies other than 20 and 30 Hertz); *second*, some parties comment that our specific requirements as applied to 20 and 30 Hertz ringing are too stringent; and *third*, several parties (AT&T, GTE and Rixon) propose specific revisions which will accommodate frequency ringing. Because these issues have been subject to considerable comment for clarity of discussion we will not recite the specific comments here.[23]

50. In its January 22, 1976 filing, Bell proposes certain conceptual relaxations of our Section 68.312 requirements as applied to 20 and 30 Hertz ringing. Basically, while we had specified that the on-hook impedance of equipment cannot drop below the impedance of a telephone set ringer (that is, yield a Ringer Equivalence Number greater than unity), Bell suggests permitting such lower impedances (with a caveat that high Ringer Equivalence Numbered equipment may not be usable on all connections with the telephone network). In its related proposed definition of "ringer equivalence number," Bell varies our dc resistance requirements to both raise them (for a unit ringer equivalence) and lower them, depending upon applied voltage. Finally, Bell modifies our definition of the ringer impedance, at 20 and 30 Hertz, by substituting 7000 and 5000 ohms, respectively, for the values presently indicated in Figure 1 accompanying Section 68.312 (8000 and 11,000 ohms).

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[22] The telephone companies' installation practices with regard to "ringing bridge" limitations are predicated upon the item of equipment which they install most often—a telephone set.

[23] Of course, we have carefully reviewed all such comments in reaching our results herein.

51. Bell's January 22, 1976 proposal did have one conceptual flaw which was later corrected in its March 1, 1976 filing. The January language imposed limitations related to the entirety of equipment connected with a particular telephone connection. Such requirements were not, on their face, directly translatable into specific registration limitations for any one particular piece of equipment (e.g., dc current and impedance limitations). Our intention was, and is, to establish on-hook requirements to which *individual* pieces of equipment can be evaluated, and then provide a means whereby customers, in consultation with a serving telephone company, can determine whether connection of such equipment is permissible. The mechanism which we established is that of "ringer equivalence" which must appear on the equipment label, and a required dialog with the serving telephone company (during notification). Overlaid on this mechanism is a specific requirement, in Section 68.110, for the telephone company to inform its telephone subscriber, on request, of the "ringer equivalence" limitations of his facilities, which gives the subscriber an opportunity to determine prior to equipment purchase whether it can be connected.

52. GTE and Rixon, in providing positive recommendations for accommodating frequency ringing in the rules, unfortunately did so within the conceptual framework established by Bell's January filing, and therefore set forth proposals on limitations which were similarly related to the entirety of equipment connected with a particular telephone connection. In its March filing, Bell assumed a maximum of 5 ringing bridges, and manipulated its January whole-connection limitations by dividing by 5 to yield per-unit specifications (mainly contained in its proposed definition of "ringer equivalence"). We shall adopt Bell's revised Section 68.312 and related ringer equivalence definitional language as applicable to "type A" (20 and 30 Hertz) ringing. We shall similarly manipulate, by the factor of 5, GTE's proposed requirements as applicable to

types "C" through "N" ringing. For type "B" circuitry (broadband), we shall define the "ringer equivalence" as the worst-case of all of the limitations imposed upon all of the other ringing frequencies. If the resulting standards are not acceptable to some, or all of the independent telephone companies which utilize ringing standards and techniques other than 20 and 30 Hertz ringing, as is used by Bell, we encourage such companies (or their trade associations) to file appropriate petitions for rulemaking; any such petitions will be acted upon expeditiously.[24]

53. One final related matter is the introduction of a maximum on-hook impedance specification of 40 kilohms, in both Bell's and GTE's proposed revisions. The stated rationale for this specification is that unless certain central office facilities are presented with an aggregate impedance, during ringing, below 40 kilohms, automatic fault detection circuitry which is intended to sense fault conditions on the connection will be activated. We appreciate this concern and feel that it is a rational one; however, to impose a maximum impedance specification appears to limit equipment manufacturers from fabricating equipment with ringer equivalence numbers lower than about 0.2, which may limit the use of such equipment on particular connections which already are at the "ringing bridge" maximum. In addition, certain equipment types currently in use presently have no "ringing bridges," as they are intended to be used in conjunction with a telephone set which provides ringing detection.[25] These devices would have

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[24] Such a worst-case Ringer Equivalence may well overstate the ringing load for particular facilities. Such would be a compatibility problem and would *not* cause harm. A telephone company could permit connection of more than 5 equivalent bridges where the numbers are so overstated.

[25] An example of such a device would be the direct-connection analogue of the subject of the *Carterfone* decision—a device which, in conjunction with a telephone set, is used to connect a customer-provided radio system with the telephone network. Such a system is connected in parallel with telephone connec-

an on-hook impedance greater than 40 kilohms (essentially infinite). To accommodate these concerns, we are separating out a category of devices which always will be expected to be connected to telephone connections which already have a maximum impedance of 40 kilohms connected therewith.

54. Bell proposes a new Section 68.107, Responsibility of the User, which in a proposed sub-part (a), in its January 22, 1976 filing, generally requires telephone subscribers to not harm the telephone network, and in a proposed sub-part (b), in its March 1, 1976 filing, requires that telephone subscribers not connect equipment which will cause the ringing bridge limitations of a particular telephone line to be exceeded. Such language may well be appropriate (*see* Section 68.1 "purpose" and 56 FCC 2d at 610, paragraph 47). However, since it relates to the basic rights and responsibilities of telephone carriers and their customers, we feel that this type of requirement is more appropriately contained in the tariffs which define the telephone carrier/telephone subscriber relationship than in our rules. Much of what is proposed for sub-section (a) already is contained in the interstate tariffs at issue in this proceeding; if the telephone companies wish to set forth a requirement related to ringing bridges, such as is proposed in sub-part (b), they may do so in a tariff filing (subject to the normal constraints on such filings). This was the intent of the First Report and Order, and was authorized under the final ordering clause therein, 56 FCC 2d at 614.

Section 68.314 *Minimum Call Duration Requirements*

55. Section 68.314 presently imposes a minimum call duration requirement which is intended, in conjunction with the present requirement of Section 68.308(c), to assure

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tions after network control signaling, including ringing detection, has been performed by an associated telephone set.

that proper network billing is not impeded by data equipment. Several parties have commented that it is ambiguous whether these two sections relate to the same 2-second time interval, or to successive time intervals. In its January 22, 1976 filing, Bell suggested revised language which would meld two requirements together to clarify this identified ambiguity. IBM responded to Bell's January 22 language, by stating its belief that the language would impose signal power limitations for the first 2 seconds on the *call-originating* equipment, and that, in its view, signal power limitations on the *answering* equipment would be adequate. This view is consistent with the Commission's intent in promulgating the stated language of Section 68.308(c). So long as the answering data equipment is effectively precluded from sending a signal to the calling data equipment (—55 dBm is too low a power level to be received), the calling data equipment has no means of assuring that its call was ever answered. We can conceive of no data processing application, polling or otherwise, where calling data equipment would send data and not await *some* reply to indicate that the connection, in fact, had been established. On the other hand, if the calling data equipment is only going to be used to receive data from the called equipment, it would have to await the 2-second interval to do so. Therefore, in both cases, the connection will necessarily be maintained for 2 seconds. The combined effect of the two requirements, presently contained in Sections 68.308(c) and 68.314 is to assure this result, as the registration requirement is that *calling* data equipment is required to maintain the connection for at least 2 seconds. The only way that the calling equipment can comply with this requirement is to know when the connection was established. Even in the extremely unlikely case of an originating dataset configured to send data without some form of data reply from the called dataset, it would not know when the connection had been established either without some form of reply from the called end, or by timing from the end of the last ringing signal tone which

it "heard." Since ringing is typically sent in 2-second-on/3-second-off bursts, sensing of the cessation of ringing would necessarily include at least 2 seconds of connection time. Therefore, for these reasons, we are rejecting Bell's proposed revision of our present Section 68.314 requirements, although we are making certain editorial changes thereto.

56. On the other hand, we feel that there is much merit in placing all billing protection requirements in one unified section of the rules. Therefore, we shall move the present Section 68.308(c) requirement into a revised Section 68.314, which we will caption "Billing Protection," and also will add other billing-protecting requirements, discussed below, to that section.

57. IDCMA has commented that it feels that the 2-second time interval is inappropriate, and that greater than 1.3 seconds would provide the requisite billing protection. Bell responds, in its March 1, 1976 filing, by indicating that the vulnerability associated with the 2-second requirement is presently being phased out on the telephone network, that as its own data equipment is subject to the same limitation it is equally in Bell's interest to lower the time interval as soon as it is feasible to do so, and that at some point in the future it will be feasible to lower this time interval, but for the present, the 2-second limit is what is required. We shall accept Bell's judgment on this point as we agree that there is sufficient motivation here to assure that the 2-second time interval is presently reasonable. Finally, NATA has commented that the time interval should not be applicable to voice equipment. The rules already clearly state that they apply only to "data" equipment and we fail to see how they could be construed as a requirement on voice equipment.

58. *Billing Protection.* In a proposed Section 68.316, Bell seeks rules which will prevent registration of equipment which will have the effect of defeating charging equip-

ment.[26] We are of the view that equipment which is *intentionally* intended to defeat billing will not be the subject of a registration application under Part 68, since merely by filing an application, an applicant would invite investigation and prosecution under various statutes. On the other hand, equipment might be designed which *inadvertently* has the effect of defeating billing equipment. We consider it appropriate to include rules which will prevent registration of equipment in this latter category. We would expect, however, that equipment manufacturers and carriers will be protected against such inadvertent and unintentional equipment design through informational documents concerning compatibility with the telephone network which we have encouraged the carriers to distribute (*see* 56 FCC 2d at 602, para. 22 and note 13 thereto.)

59. In the rationale accompanying its proposed call charging limitation language, AT&T indicates that the specific proposed rules "would deny registration to many of the known [billing-defeating] devices." NATA finds these rules acceptable, but IDCMA and CBEMA comment that tariffs and law already preclude registration of such equipment. IDCMA particularly notes that the third suggested requirement (a limitation on signal power solely in

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[26] Bell also proposed, in its January 9, 1976 filing, allied language which would remove from the scope of the program equipment "which does not have a legitimate telecommunications purpose or which is illegal under the laws of the United States or the laws of any State in the United States." While the stated goal of this language was to deny registration to billing-defeating equipment, as T.A.D. Avanti had indicated in its comments, such language is too vague and subject to wide interpretation. In the unlikely event that a manufacturer of possibly unlawful or fraudulent equipment chooses to surface himself by attempting to register such equipment with the FCC, specific technical requirements, as proposed by Bell, will serve to deny such registration. In any event, the specific "scope" change proposed by AT&T on January 9, 1976 has been rejected in the Commission's February 13, 1976 Memorandum Opinion and Order.

the 2450 to 2750 Hertz band) is presently contained in the telephone companies' tariffs, and Phone-Mate, Inc. notes that it might be interpreted as requiring filtering which has not previously been required by connecting arrangements.

60. Consistent with our view that rules to prevent the registration of equipment which inadvertently has the effect of defeating proper billing are appropriate, we shall adopt Bell's proposed Section 68.316, substantially in its present form, although we shall include it in our revised Section 68.314.

61. As Bell noted, these rules only would serve to deny registration to the "known" billing-defeating designs. Since we have defined "harm," *inter alia*, as "malfunction of telephone company billing equipment," the telephone companies can always petition for appropriate additions to this section should presently-uncontemplated designs arise.

Order

62. In view of the foregoing, IT IS ORDERED, That the petitions for reconsideration listed in paragraph 2 above, and the amendment to Bell's petition for reconsideration (*see* paragraph 3 above) are GRANTED to the extent indicated herein and are DENIED in all other respects.

63. IT IS FURTHER ORDERED, pursuant to Sections 4(i), 4(j), 201-205, 208, 215, 218, 313, 314, 403, 404, 410 and 602 of the Communications Act, That Part 68 of the Commission's Rules and Regulations is amended as shown in the appendix hereto,[27] effective May 1, 1976.

FEDERAL COMMUNICATIONS COMMISSION,
VINCENT J. MULLINS, *Secretary*

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[27] For amendments see Federal Register of March 26, 1976, 41 FR 12665.

F.C.C. 76-377

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

Docket No. 19528

In the Matter of

PROPOSALS FOR NEW OR REVISED CLASSES OF INTERSTATE AND FOREIGN MESSAGE TOLL TELEPHONE SERVICE (MTS) AND WIDE AREA TELEPHONE SERVICE (WATS)

Memorandum Opinion and Order

(Adopted: April 27, 1976; Released: April 28, 1976)

BY THE COMMISSION: COMMISSIONER QUELLO CONCURRING IN PART AND DISSENTING IN PART AND ISSUING A STATEMENT IN WHICH COMMISSIONER HOOKS JOINS; COMMISSIONER WASHBURN ABSENT.

1. In a First Report and Order in this proceeding (November Order), 56 FCC 2d 593 (1975), the Commission established a registration program designed to allow users of the nationwide telephone network to connect terminal equipment other than PBXs, key telephone equipment, main telephones and coin telephones to the network without the need for carrier-supplied protective couplers, provided that such equipment complies with standards incorporated into the registration program to protect the network against harm. This program was made applicable both to equipment provided by users (customer-supplied equipment) and to equipment provided by telephone companies (carrier-supplied equipment).[1] On February 13, 1976, the Commission issued a Memorandum Opinion and Order (FCC 76-134) (hereafter, February Order) in reconsideration of the November Order which generally affirmed the conclusions and principles of the November Order, but which established

[1] 56 FCC 2d at 601.

certain "grandfather" provisions concerning equipment installed during a transition period established for phasing in registration of terminal equipment. In a Second Report and Order released March 18, 1976 (FCC 76–242) (hereafter, March 18 Order), the Commission extended the registration program to PBXs, key telephone equipment and main telephones (leaving coin telephones and equipment connected with party-line telephone service excluded from the scope of the registration program).

2. We have before us two Petitions for Declaratory Ruling filed, respectively, by Rixon, Incorporated (Rixon) and National Telephone Cooperative Association (NTCA) requesting clarification of the "grandfathering" and transition period requirements of Part 68 of the Commission's Rules, and of certain other provisions of these rules. Rixon, a manufacturer of data equipment which it has supplied to Independent telephone companies for direct connection to the telephone network, is concerned with the effect of the "grandfathering" and transition period requirements as applied to equipment which it supplies to these telephone companies. NTCA raises similar concerns from the vantage point of a trade association of telephone companies, as well as other concerns which are addressed herein. No entities filed comments on Rixon's petition. The Bell System companies filed a "Response" to NTCA's petition.[2] Because the issues raised by these petitions are related, both petitions (and responsive pleadings) will be addressed herein.

"Grandfathering"

3. As amended by the February and March 18 Orders, Section 68.2(b) and (c) of the Rules provides that:

(b) Unless otherwise ordered by the Commission, all items of equipment, other than PBX and key tele-

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[2] A late response was filed by the North American Telephone Association (NATA). We hereby grant NATA's petition to file this response and will consider it herein. Also received is NTCA's reply to NATA's response.

phone equipment, of a type directly connected to the network as of May 1, 1976 may be connected thereafter up to January 1, 1977—and may remain connected for life—without registration, unless subsequently modified.

(c) Unless otherwise ordered by the Commission, all PBX and key telephone equipment of a type directly connected to the network as of August 1, 1976 may be connected thereafter up to January 1, 1977—and may remain connected for life—without registration, unless subsequently modified.

4. Rixon argues that this language is ambiguous, primarily because "may remain connected" implies continuous connection of a grandfathered item of equipment, without surcease, and therefore grandfathered status would be lost if such an item of equipment were to be removed for repair, or for reinstallation on the same or another customer premise. Also, Rixon argues that "unless subsequently modified" could be interpreted as meaning that repair of a grandfathered item might cause its status to change, if repair operations could be interpreted as "modification."

5. NTCA is concerned with our use of the language "of a type." In NTCA's view, this language might apply to customer-owned equipment connected to the telephone network in violation of FCC-filed tariffs prior to May 1, 1976, and therefore could accord grandfathered status to such equipment. Also, NTCA is concerned that "of a type" might be construed as rather broadly referring to generic classes of equipment (e.g., all items in the class "telephone set"). Finally, NTCA seeks clarification of the grandfathered status of equipment which is removed for repair and/or rehabilitation.

6. Our grandfathering language, which is set out in paragraph 3 above, provides both customers and telephone companies an alternative under which certain *nonregistered* telephone terminal equipment may be connected to the tele-

phone network during a limited transition period commencing with the effective date[3] of the Part 68 Rules and ending on January 1, 1977. As was stated in our February Order, one of the primary purposes of providing this alternative was "to afford proper recognition to the millions of items of terminal equipment—produced by both carrier-affiliated and independent manufacturers—which are now and have been directly connected to the network with no evidence of having caused harm thereto." While this statement alone might have been construed as applying only to telephone company-provided equipment, it should be clear from both the general findings and specific text of the February Order that this alternative is equally applicable to customer-provided terminal equipment. To hold otherwise would be to continue the unjust and unreasonable discrimination which we have found to exist between provisions for connecting telephone company-provided equipment and customer-provided equipment.

7. In the context of Section 68.2(b) and (c) of the Rules, the language "directly connected" refers to any direct electrical connection, either by a telephone company or by a customer, made (1) in accordance with the telephone companies' tariffs and (2) without a protective "connecting arrangement." We wish to point out that it is not our intention to sanctify the direct connection of equipment in violation of the carriers' tariffs. Thus terminal equipment which has been directly connected, within the meaning of our rule, includes all equipment supplied by telephone companies (including "connecting arrangements" and "data access arrangements") as well as the following types of customer supplied equipment: attested operators' headsets and conferencing devices, conformed telephone answering devices, equipment certified and connected pursuant to General Order No. 138 of the California Public Utilities Com-

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[3] For PBX and key telephone equipment, the effective date is August 1, 1976; for all other equipment, the effective date is May 1, 1976.

mission, and equipment connected by many "special" entities (e.g., gas, oil, electric, and transportation companies, selected industrial firms, the Department of Defense, the National Aeronautics and Space Administration, and customers in "hazardous or inaccessible locations") pursuant to the various exceptions to the general requirement for telephone company-provided "connecting arrangements" (AT&T's Tariff F.C.C. No. 263, Sections 2.7.5, 2.7.6, 2.7.7 and 2.7.8). Equipment of a type which meets the two requirements stated above is eligible for "grandfathered" status. It matters not whether such "grandfathered" equipment is provided by a telephone company or by a customer. Just as registered equipment may be connected by either, under the same terms and conditions, so too may "grandfathered" equipment be connected by either, under the same terms and conditions. As was stated above, our grandfathered language is for the benefit of both customers and carriers alike.

8. Our use of the language "of a type" generally means the same model of equipment made by the same manufacturer. Thus it is intended to mean equipment of the same mechanical and electrical design. It does not refer to a generic description (e.g., "telephone set") or to an industry-wide generic type designation (e.g., "500 set," a standard telephone set manufactured by several domestic manufacturers including Western Electric, Stromberg-Carlson and ITT Kellogg). "Of a type," however, does refer to cosmetic variations of a manufacturer's product (e.g., both a white and beige "500 set" telephone instrument by the same manufacturer would be of the same type).

9. The phrase "may remain connected" is clearly intended as a permissive privilege of grandfathered status, not as a condition precedent to the retention of such status. Once an item of equipment is grandfathered by connection prior to January 1, 1977, it will retain that status, regardless of disconnection or reconnection at the same or another premise, and regardless of repair operations which re-

store it to the same functional operation it had prior to the failure which resulted in the repair operation. "Unless subsequently modified" is not intended to limit routine repairs of this nature. It is intended to cause grandfathered status to be lost if components in previously-grandfathered equipment are replaced during a repair operation with components which are not comparable to the original ones.

10. Section 68.106 of our Rules requires customers, before connecting terminal equipment, to notify the telephone company that such connection is being made and to provide the telephone company the F.C.C. Registration Number and the Ringer Equivalence Number. Of course, in the case of grandfathered equipment, the F.C.C. Registration Number and the Ringer Equivalence Number are not available. However, the customer is still obligated to notify the telephone company of intended connections of grandfathered equipment, and to provide sufficient identifying information (e.g., manufacturer's name, model and serial numbers, etc.) to enable the carrier to determine that the equipment is indeed of a type which has been grandfathered. In order to simplify the determination of whether a certain type of nonregistered terminal equipment is grandfathered, the Commission will maintain a list of all terminal equipment which is eligible for grandfathering. This list will be compiled from lists which we will require the carriers to furnish us, containing sufficient descriptive information to identify all terminal equipment which the carriers are aware of which is directly connected to the telephone network as of May 1, 1976.[4] The composite list thus established shall serve as the basis for determining the grandfather status of both carrier-supplied and customer-supplied equipment.[5]

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[4] For PBXs and key telephone equipment, the relevant date is August 1, 1976.

[5] While we shall expect the initial lists to be as comprehensive as possible, additions and/or deletions should be filed on a continuing basis, promptly upon their identification.

Repairs

11. Section 68.216 of the Rules requires repairs to registered equipment to be performed by the equipment manufacturer, or its authorized agent. NTCA wishes clarification as to whether this rule applies to telephone companies which traditionally repair equipment which they purchase. Considering the telephone companies' claimed expertise in preventing "harm," as set forth in the Docket No. 19528 proceedings, we believe that such formal authority is unnecessary. We will not require the telephone companies to enter into any formal agency relationship with their suppliers.

12. One additional problem which is raised relates to a present practice of telephone equipment refurbishment. Equipment refurbishers typically repair telephone equipment by assembling sub-equipments of different manufacturers.[6] We view such refurbishment in a manner which is consistent with our view of "unless subsequently modified" as that term is applied to grandfathering. That is, if components are replaced with comparable components during refurbishment, the continuing validity of the equipment registration is unquestioned so long as the refurbishment is done by an authorized agent of the manufacturer (or registration grantee).[7] In the case of equipment which is repaired by replacement of components which are themselves part and parcel of equipment registration (e.g., components which are used in equipment which is registered

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[6] As was mentioned earlier, there are several manufacturers who produce substantially similar "500 sets," for example. Many of the components in these sets are interchangeable. Thus, while a set of new manufacture was assembled under the manufacturer's control, a refurbished set may contain components of some or all of these manufacturers.

[7] If the refurbishment is done by one who is not an authorized agent, the refurbisher itself will have to register its work product.

by another manufacturer), it is clear that no harm will result.

Plugs and Jacks

13. Registered equipment is required to be connected to the telephone network through means of connection specified in Part 68 of the Rules. Equipment other than PBX and key telephone equipment is required to be connected through the use of standard plugs and telephone company-installed jacks. NTCA requests clarification as to whether equipment which is connected by the telephone companies during the transition period is required to be connected through the use of such plugs and jacks. We are not requiring such equipment to be connected during the transition period using standard plugs and jacks. Telephone companies may continue to use whatever means of connection they are presently using for the connection of terminal equipment which they supply, provided that they do not discriminate in the treatment of customer-provided equipment. Both registered terminal equipment and grandfathered equipment must be accorded the rights of connection specified in Part 68—through a telephone company-installed standard jack—or, if such means are not available immediately upon the customer's request, the telephone company must permit connection of such terminal equipment through alternative means. Such means may be a non-standard plug and jack, an adapter, or hard-wiring to a connection block. In any event, if a telephone company is unable to install a standard jack upon reasonable request of its customer during the phasing-in period, the customer should not be required to incur any expenses which a customer using similar telephone company-provided equipment does not incur. Once terminal equipment has been installed through other than a standard plug and jack, the telephone company need not make a special service call to replace such installation with a standard plug and jack; such changeover may be done in the routine course of business.

Other Matters

14. NTCA wishes clarification of the meaning of "extentension telephone" and wishes to know if that term refers to remote telephone sets used with PBX and key telephone common equipment. We regard such instruments as part of the PBX and key systems with regard to the effective date of including such equipment within the scope of Part 68 (specified as August 1, 1976 in the March 18 Order).

15. NTCA seeks clarification as to whether telephone companies can require the use of a permanently installed telephone ringer with user-provided main stations using standard plugs and jacks. Section 68.104 exempts such permanently installed ringers from the plug and jack requirement. As was indicated in paragraph 49 of the November Order, 56 FCC 2d at 611, we regard this as a customer option, and not as a telephone company requirement. If the customer desires a ringer which is not subject to accidental disconnection through inadvertent withdrawal of a plug, our rules accommodate such a desire. We do not view our permissive exception as permitting this to become a telephone company requirement on customers.

16. NTCA requests the Commission to treat certain telephone services provided over "station carrier" systems as party line service under Part 68. Party line service is presently excluded from the application of Part 68 because technical equipment failures of equipment used on single-party line service which only would interfere with the *user's* telephone service, might interfere with *other parties'* telephone service on a party line. Although the service provided on these "station carrier" systems is considered single-party service in exchange tariffs, and thus would be included within Part 68, NTCA alleges that "harm" to other users of such a "station carrier" could occur by equipment designs which comply with the specifications of equipment registered in accordance with Part 68, and therefore such "station carrier"systems should be treated as if they were

traditional party lines (where simultaneous use by various parties is not possible).

17. In support of this new position, NTCA exemplifies such alleged harm with the following statement:

> Customers with single party service provided by station carrier can cause "harm" to other customers on the same service, for example if equipment with excessive current demand is utilized, another subscriber's battery could become depleted, thus making his service inoperable.

In view of the many procedural opportunities in which appropriate specifications on equipment used with "station carrier" systems could have been brought before this Commission since Docket No. 19528 was instituted in 1972, we will not deny indefinitely the right of connecting registered equipment to users who happen to have service provided on a "station carrier" system, based upon NTCA's unsupported allegation. NTCA may file a Petition for Rulemaking with appropriate documentation if it wishes to address such a problem. If a user connects equipment which does, in fact, have the effect of interfering with the telephone service of another user of a "station carrier," the telephone company can temporarily discontinue service to the offending user's equipment, consistent with Section 68.110 of our Rules.

18. We wish to address the relationship between our "beep-tone" requirements and our new Part 68 rules. In 1947, the Commission ruled that the telephone companies should revise their tariffs to permit the recording of two-way conversations through the use of customer-supplied recording devices, provided that an automatic tone warning device, supplied by the telephone company, is used in conjunction with such recording devices.[8] The Commission im-

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[8] For exceptions to this general policy, see *Use of Recording Devices in Connection with Telephone Service (Broadcast of Two-Way Telephone Conversations)*, 38 FCC 2d 579 (1972),

posed the "beep-tone" requirement because it was "keenly appreciative of the importance and desirability of privacy in telephone conversations," and believed that telephone conversations, "should be free from any listening-in by others that is not done with the knowledge and authorization of the parties to the call. . . ." *Use of Recording Devices in Connection with Telephone Service, Docket No. 6787,* 11 FCC 1033 (1947); 12 FCC 1005 (1947); 12 FCC 1008 (1948). On March 28, 1951, the Commission released a "Statement with Respect to Use of Telephone Recording Devices," in which it acknowledged that, "no tone-warning device has yet been developed which is able to give a warning tone on the telephone circuit when being used with an inductive type recorder." (Inductively and acoustically coupled recording devices are distinguished from electrically coupled recorders by their lack of direct physical connection to the telephone line.) In this statement, the Commission directed that until tone-warning devices are available for use with inductive recorders, the use of such recorders in connection with interstate and foreign telephone service would be contrary to its previous orders.

19. Since our 1947 *Recording Devices* decisions require the telephone companies to provide the automatic "beep-tone" warning device (which is incorporated into their connecting arrangements), they are inconsistent with our recent rulings in Docket No. 19528, which prohibit the carriers from requiring customers to use connecting arrangements with F.C.C. registered equipment. In view of this we will not require the "beep-tone" warning device to be provided by the telephone company, where a customer wishes to directly connect an F.C.C. registered recording device to the telephone network. We are not however, at this time, modifying the basic requirement that a "beep-tone" be used when recording two-way conversations. The "beep-

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and *Use of Recording Devices in Connection with Telephone Service (Telephone Calls referred to United States Secret Service),* 50 FCC 2d 905 (1975).

tone" requirement is independent of Part 68, which addresses harm to the telephone network, and telephone users who employ recording devices which record two-way telephone conversations are still required to supply an appropriate "beep-tone." Of course a "beep-tone" which is generated in registered equipment, or in equipment used with registered equipment, is required to conform to our signal power limitations (Section 68.308).

20. We wish to address one final matter on our own motion. In the November Order, Section 68.2 contained the sentence: "Terminal equipment as used in this Part includes terminal equipment and/or systems." When this section was subsequently revised by our February and March 18 Orders, this sentence was omitted. We wish to make clear that this omission was inadvertent and was not intended to restrict the scope of Part 68. As used in Part 68, the term "terminal equipment" includes terminal equipment and/or systems. With this clarification, we do not believe it is necessary to amend our Part 68 rules.

Order

21. In view of the foregoing, IT IS ORDERED, That the Petitions for Declaratory Ruling filed by Rixon, Inc. and the National Telephone Cooperative Association ARE GRANTED to the extent indicated herein and ARE OTHERWISE DENIED.

22. IT IS FURTHER ORDERED, That all telephone companies shall file within 30 days of the release date of this Order, lists containing sufficient descriptive information to identify all terminal equipment which the carriers are aware of which is directly connected to the telephone network as of May 1, 1976.[9]

FEDERAL COMMUNICATIONS COMMISSION,
VINCENT J. MULLINS, *Secretary*

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[9] For PBX and key telephone equipment, such lists shall be filed by August 1, 1976, and shall relate to PBX and key telephone equipment connected as of August 1, 1976.

STATEMENT OF COMMISSIONER JAMES H. QUELLO CONCURRING IN PART AND DISSENTING IN PART IN WHICH COMMISSIONER BENJAMIN L. HOOKS JOINS *

In Re: Docket 19528, April 27, 1976

I have no quarrel with this order insofar as it clarifies our rules with regard to the registration of terminal equipment other than PBX's, key telephone equipment, main telephones and coin telephones. Therefore, I concur with that portion of the order.

My concern continues to be the haste with which we moved to include all terminal equipment absent relevant data bearing on the potential economic impact upon the telephone network and upon the ratepaying public. My dissent to the inclusion at this time of PBX's, key sets, main telephones and coin telephones goes to the substance of that action and not merely to the clarification contained within this order.

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* Commissioner Hooks has issued separate statements in Docket 19528 (FCC 76-134, February 13, 1976 and FCC 76-242, March 18, 1976) which elaborate on his individual views.

UNITED STATES COURT OF APPEALS
FOR THE FOURTH CIRCUIT

No. 76-1415

AMERICAN TELEPHONE AND TELEGRAPH COMPANY, ET AL.,
Petitioners,

VS.

THE FEDERAL COMMUNICATIONS COMMISSION

AND

THE UNITED STATES OF AMERICA,
Respondents.

NORTH AMERICAN TELEPHONE ASSOCIATION, PHONETELE, INC., AND AERONAUTICAL RADIO, INC.
Intervenors.

ON PETITION FOR REVIEW OF AN ORDER OF THE FEDERAL COMMUNICATIONS COMMISSION.

(FILED MARCH 22, 1977)

THIS CAUSE came on to be heard upon the petition of American Telephone and Telegraph Company and the Bell System operating companies listed in Attachment A of the petition for review of orders issued against it by the Federal Communications Commission, in proceedings before the said Commission known upon its records as Docket No. 19528; upon the certified list in lieu of a transcript of the record; and the said cause was argued by counsel.

ON CONSIDERATION WHEREOF, It is ordered, adjudged and decreed by the United States Court of Appeals for the Fourth Circuit that the Federal Communications Commission's First Report and Order Docket No. 19528, 56 F.C.C.2d 593 (1975); its Second Report and Order in Docket No. 19528, 58 F.C.C.2d 736 (1976), and its Memorandum Opinion and Orders released February 13, 1976, March 15, 1976, and April 28, 1976, are affirmed.

/s/ WILLIAM K. SLATE, II
Clerk

Pertinent Provisions Of The Communications Act of 1934

Section 1, 47 U.S.C. § 151, provides:

> For the purpose of regulating interstate and foreign commerce in communication by wire and radio so as to make available, so far as possible, to all the people of the United States a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges, for the purpose of the national defense, for the purpose of promoting safety of life and property through the use of wire and radio communication, and for the purpose of securing a more effective execution of this policy by centralizing authority heretofore granted by law to several agencies and by granting additional authority with respect to interstate and foreign commerce in wire and radio communication, there is created a commission to be known as the "Federal Communications Commission", which shall be constituted as hereinafter provided, and which shall execute and enforce the provisions of this chapter.

Section 2, 47 U.S.C. § 152, provides:

> (a) The provisions of this chapter shall apply to all interstate and foreign communication by wire or radio and all interstate and foreign transmission of energy by radio, which originates and/or is received within the United States, and to all persons engaged within the United States in such communication or such transmission of energy by radio, and to the licensing and regulating of all radio stations as hereinafter provided; but it shall not apply to persons engaged in wire or radio communication or transmission in the Canal Zone, or to wire or radio communication or transmission wholly within the Canal Zone.
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> (b) Subject to the provisions of section 301 of this title, nothing in this chapter shall be construed to

apply or to give the Commission jurisdiction with respect to (1) charges, classifications, practices, services, facilities, or regulations for or in connection with intrastate communication service by wire or radio of any carrier, or (2) any carrier engaged in interstate or foreign communication solely through physical connection with the facilities of another carrier not directly or indirectly controlling or controlled by, or under direct or indirect common control with such carrier, or (3) any carrier engaged in interstate or foreign communication solely through connection by radio, or by wire and radio, with facilities, located in an adjoining State or in Canada or Mexico (where they adjoin the State in which the carrier is doing business), of another carrier not directly or indirectly controlling or controlled by, or under direct or indirect common control with such carrier, or (4) any carrier to which clause (2) or clause (3) of this subsection would be applicable except for furnishing interstate mobile radio communication service or radio communication service to mobile stations on land vehicles in Canada or Mexico; except that sections 201-205 of this title shall, except as otherwise provided therein, apply to carriers described in clauses (2)-(4) of this subsection.

Section 3, 47 U.S.C. § 153, provides in part:

For the purposes of this chapter, unless the context otherwise requires—

(a) "Wire communication" or "communication by wire" means the transmission of writing, signs, signals, pictures, and sounds of all kinds by aid of wire, cable, or other like connection between the points of origin and reception of such transmission, including all instrumentalities, facilities, apparatus, and services (among other things, the receipt, forwarding, and delivery of communications) incidental to such transmission.

(b) "Radio communication" or "communication by radio" means the transmission by radio of writing, signs, signals, pictures, and sounds of all kinds, including all instrumentalities, facilities, apparatus, and services (among other things, the receipt, forwarding, and delivery of communications) incidental to such transmission.

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(e) "Interstate communication" or "interstate transmission" means communication or transmission (1) from any State, Territory, or possession of the United States (other than the Canal Zone), or the District of Columbia, to any other State, Territory, or possession of the United States (other than the Canal Zone), or the District of Columbia, (2) from or to the United States to or from the Canal Zone, insofar as such communication or transmission takes place within the United States, or (3) between points within the United States but through a foreign country; but shall not, with respect to the provisions of subchapter II of this chapter, include wire or radio communication between points in the same State, Territory, or possession of the United States, or the District of Columbia, through any place outside thereof, if such communication is regulated by a State commission.

(f) "Foreign communication" or "foreign transmission" means communication or transmission from or to any place in the United States to or from a foreign country, or between a station in the United States and a mobile station located outside the United States.

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(h) "Common carrier" or "carrier" means any person engaged as a common carrier for hire, in interstate or foreign communication by wire or radio or

in interstate or foreign radio transmission of energy, except where reference is made to common carriers not subject to this chapter; but a person engaged in radio broadcasting shall not, insofar as such person is so engaged, be deemed a common carrier.

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(r) "Telephone exchange service" means service within a telephone exchange, or within a connected system of telephone exchanges within the same exchange area operated to furnish to subscribers intercommunicating service of the character ordinarily furnished by a single exchange, and which is covered by the exchange service charge.

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(t) "State commission" means the commission, board, or official (by whatever name designated) which under the laws of any State has regulatory jurisdiction with respect to intrastate operations of carriers.

(u) "Connecting carrier" means a carrier described in clauses (2), (3), or (4) of section 152(b) of this title.

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Section 4, 47 U.S.C. § 154, provides in part:

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(i) The Commission may perform any and all acts, make such rules and regulations, and issue such orders, not inconsistent with this chapter, as may be necessary in the execution of its functions.

(j) The Commission may conduct its proceedings in such manner as will best conduce to the proper dispatch of business and to the ends of justice. No

Commissioner shall participate in any hearing or proceeding in which he has a pecuniary interest. Any party may appear before the Commission and be heard in person or by attorney. Every vote and official act of the Commission shall be entered of record, and its proceedings shall be public upon the request of any party interested. The Commission is authorized to withhold publication of records or proceedings containing secret information affecting the national defense.

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Section 201, 47 U.S.C. § 201, provides:

(a) It shall be the duty of every common carrier engaged in interstate or foreign communication by wire or radio to furnish such communication service upon reasonable request therefor; and, in accordance with the orders of the Commission, in cases where the Commission, after opportunity for hearing, finds such action necessary or desirable in the public interest, to establish physical connections with other carriers, to establish through routes and charges applicable thereto and the divisions of such charges, and to establish and provide facilities and regulations for operating such through routes.

(b) All charges, practices, classifications, and regulations for and in connection with such communication service, shall be just and reasonable, and any such charge, practice, classification, or regulation that is unjust or unreasonable is declared to be unlawful: *Provided,* That communications by wire or radio subject to this chapter may be classified into day, night, repeated, unrepeated, letter, commercial, press, Government, and such other classes as the Commission may decide to be just and reasonable, and different charges may be made for the different classes of communications: *Provided further,* That nothing in

this chapter or in any other provision of law shall be construed to prevent a common carrier subject to this chapter from entering into or operating under any contract with any common carrier not subject to this chapter, for the exchange of their services, if the Commission is of the opinion that such contract is not contrary to the public interest: *Provided further*, That nothing in this chapter or in any other provision of law shall prevent a common carrier subject to this chapter from furnishing reports of positions of ships at sea to newspapers of general circulation, either at a nominal charge or without charge, provided the name of such common carrier is displayed along with such ship position reports. The Commission may prescribe such rules and regulations as may be necessary in the public interest to carry out the provisions of this chapter.

Section 202, 47 U.S.C. § 202, provides:

(a) It shall be unlawful for any common carrier to make any unjust or unreasonable discrimination in charges, practices, classifications, regulations, facilities, or services for or in connection with like communication service, directly or indirectly, by any means or device, or to make or give any undue or unreasonable preference or advantage to any particular person, class of persons, or locality, or to subject any particular person, class of persons, or locality to any undue or unreasonable prejudice or disadvantage.

(b) Charges or services, whenever referred to in this chapter, include charges for, or services in connection with, the use of common carrier lines of communication, whether derived from wire or radio facilities, in chain broadcasting or incidental to radio communication of any kind.

(c) Any carrier who knowingly violates the provisions of this section shall forfeit to the United States

the sum of $500 for each such offense and $25 for each and every day of the continuance of such offense.

Section 203, 47 U.S.C. § 203, provides:

(a) Every common carrier, except connecting carriers, shall, within such reasonable time as the Commission shall designate, file with the Commission and print and keep open for public inspection schedules showing all charges for itself and its connecting carriers for interstate and foreign wire or radio communication between the different points on its own system, and between points on its own system and points on the system of its connecting carriers or points on the system of any other carrier subject to this chapter when a through route has been established, whether such charges are joint or separate, and showing the classifications, practices, and regulations affecting such charges. Such schedules shall contain such other information, and be printed in such form, and be posted and kept open for public inspection in such places, as the Commission may by regulation require, and each such schedule shall give notice of its effective date; and such common carrier shall furnish such schedules to each of its connecting carriers, and such connecting carriers shall keep such schedules open for inspection in such public places as the Commission may require.

(b) No change shall be made in the charges, classifications, regulations, or practices which have been so filed and published except after thirty days' notice to the Commission and to the public, which shall be published in such form and contain such information as the Commission may by regulations prescribe; but the Commission may, in its discretion and for good cause shown, modify the requirements made by or under authority of this section in particular instances or by a general order applicable to special circumstances or conditions.

(c) No carrier, unless otherwise provided by or under authority of this chapter, shall engage or participate in such communication unless schedules have been filed and published in accordance with the provisions of this chapter and with the regulations made thereunder; and no carrier shall (1) charge, demand, collect, or receive a greater or less or different compensation for such communication, or for any service in connection therewith, between the points named in any such schedule than the charges specified in the schedule then in effect, or (2) refund or remit by any means or device any portion of the charges so specified, or (3) extend to any person any privileges or facilities in such communication, or employ or enforce any classifications, regulations, or practices affecting such charges, except as specified in such schedule.

(d) The Commission may reject and refuse to file any schedule entered for filing which does not provide and give lawful notice of its effective date. Any schedule so rejected by the Commission shall be void and its use shall be unlawful.

(e) In case of failure or refusal on the part of any carrier to comply with the provisions of this section or of any regulation or order made by the Commission thereunder, such carrier shall forfeit to the United States the sum of $500 for each such offense, and $25 for each and every day of the continuance of such offense.

Section 204, 47 U.S.C. § 204, provides:

Whenever there is filed with the Commission any new charge, classification, regulation, or practice, the Commission may either upon complaint or upon its own initiative without complaint, upon reasonable notice, enter upon a hearing concerning the lawfulness thereof; and pending such hearing and the decision thereon the Commission, upon delivering to the carrier

or carriers affected thereby a statement in writing of its reasons for such suspension, may suspend the operation of such charge, classification, regulation, or practice, but not for a longer period than three months beyond the time when it would otherwise go into effect; and after full hearing the Commission may make such order with reference thereto as would be proper in a proceeding initiated after it had become effective. If the proceeding has not been concluded and an order made within the period of the suspension, the proposed change of charge, classification, regulation, or practice shall go into effect at the end of such period; but in case of a proposed increased charge, the Commission may by order require the interested carrier or carriers to keep accurate account of all amounts received by reason of such increase, specifying by whom and in whose behalf such amounts are paid, and upon completion of the hearing and decision may by further order require the interested carrier or carriers to refund, with interest, to the persons in whose behalf such amounts were paid, such portion of such increased charges as by its decision shall be found not justified. At any hearing involving a charge increased, or sought to be increased, after the organization of the Commission, the burden of proof to show that the increased charge, or proposed increased charge, is just and reasonable shall be upon the carrier, and the Commission shall give to the hearing and decision of such questions preference over all other questions pending before it and decide the same as speedily as possible.

Section 205, 47 U.S.C. § 205, provides:

(a) Whenever, after full opportunity for hearing, upon a complaint or under an order for investigation and hearing made by the Commission on its own initiative, the Commission shall be of opinion that any charge, classification, regulation, or practice of any carrier or carriers is or will be in violation of any of

the provisions of this chapter, the Commission is authorized and empowered to determine and prescribe what will be the just and reasonable charge or the maximum or minimum, or maximum and minimum, charge or charges to be thereafter observed, and what classification, regulation, or practice is or will be just, fair, and reasonable, to be thereafter followed, and to make an order that the carrier or carriers shall cease and desist from such violation to the extent that the Commission finds that the same does or will exist, and shall not thereafter publish, demand, or collect any charge other than the charge so prescribed, or in excess of the maximum or less than the minimum so prescribed, as the case may be, and shall adopt the classification and shall conform to and observe the regulation or practice so prescribed.

(b) Any carrier, any officer, representative, or agent of a carrier, or any receiver, trustee, lessee, or agent of either of them, who knowingly fails or neglects to obey any order made under the provisions of this section shall forfeit to the United States the sum of $1,000 for each offense. Every distinct violation shall be a separate offense, and in case of continuing violation each day shall be deemed a separate offense.

Section 214, 47 U.S.C. § 214, provides:

(a) No carrier shall undertake the construction of a new line or of an extension of any line, or shall acquire or operate any line, or extension thereof, or shall engage in transmission over or by means of such additional or extended line, unless and until there shall first have been obtained from the Commision a certificate that the present or future public convenience and necessity require or will require the construction, or operation, or construction and operation, of such additional or extended line: *Provided*, That no such certificate shall be required under this section for the

construction, acquisition, or operation of (1) a line within a single State unless such line constitutes part of an interstate line, (2) local, branch, or terminal lines not exceeding ten miles in length, or (3) any line acquired under section 221 or 222 of this title: *Provided further,* That the Commission may, upon appropriate request being made, authorize temporary or emergency service, or the supplementing of existing facilities, without regard to the provisions of this section. No carrier shall discontinue, reduce, or impair service to a community, or part of a community, unless and until there shall first have been obtained from the Commission a certificate that neither the present nor future public convenience and necessity will be adversely affected thereby; except that the Commission may, upon appropriate request being made, authorize temporary or emergency discontinuance, reduction, or impairment of service, or partial discontinuance, reduction, or impairment of service, without regard to the provisions of this section. As used in this section the term "line" means any channel of communication established by the use of appropriate equipment, other than a channel of communication established by the interconnection of two or more existing channels: *Provided, however,* That nothing in this section shall be construed to require a certificate or other authorization from the Commission for any installation, replacement, or other changes in plant, operation, or equipment, other than new construction which will not impair the adequacy or quality of service provided.

(b) Upon receipt of an application for any such certificate, the Commission shall cause notice thereof to be given to, and shall cause a copy of such application to be filed with, the Secretary of Defense, the Secretary of State (with respect to such applications involving service to foreign points), and the Governor

of each State in which such line is proposed to be constructed, extended, acquired, or operated, or in which such discontinuance, reduction, or impairment of service is proposed, with the right to those notified to be heard; and the Commission may require such published notice as it shall determine.

(c) The Commission shall have power to issue such certificate as applied for, or to refuse to issue it, or to issue it for a portion or portions of a line, or extension thereof, or discontinuance, reduction, or impairment of service, described in the application, or for the partial exercise only of such right or privilege, and may attach to the issuance of the certificate such terms and conditions as in its judgment the public convenience and necessity may require. After issuance of such certificate, and not before, the carrier may, without securing approval other than such certificate, comply with the terms and conditions contained in or attached to the issuance of such certificate and proceed with the construction, extension, acquisition, operation, or discontinuance, reduction, or impairment of service covered thereby. Any construction, extension, acquisition, operation, discontinuance, reduction, or impairment of service contrary to the provisions of this section may be enjoined by any court of competent jurisdiction at the suit of the United States, the Commission, the State commission, any State affected, or any party in interest.

(d) The Commission may, after full opportunity for hearing, in a proceeding upon complaint or upon its own initiative without complaint, authorize or require by order any carrier, party to such proceeding, to provide itself with adequate facilities for the expeditious and efficient performance of its service as a common carrier and to extend its line or to establish a public office; but no such authorization or order shall be made unless the Commission finds, as to such pro-

vision of facilities, as to such establishment of public offices, or as to such extension, that it is reasonbly required in the interest of public convenience and necessity, or as to such extension or facilities that the expense involved therein will not impair the ability of the carrier to perform its duty to the public. Any carrier which refuses or neglects to comply with any order of the Commission made in pursuance of this subsection shall forfeit to the United States $100 for each day during which such refusal or neglect continues.

Section 215, 47 U.S.C. § 215 provides:

(a) The Commission shall examine into transactions entered into by any common carrier which relate to the furnishing of equipment, supplies, research, services, finances, credit, or personnel to such carrier and/or which may affect the charges made or to be made and/or the services rendered or to be rendered by such carrier, in wire or radio communication subject to this chapter, and shall report to the Congress whether any such transactions have affected or are likely to affect adversely the ability of the carrier to render adequate service to the public, or may result in any undue or unreasonable increase in charges or in the maintenance of undue or unreasonable charges for such service; and in order to fully examine into such transactions the Commission shall have access to and the right of inspection and examination of all accounts, records, and memoranda, including all documents, papers, and correspondence now or hereafter existing, of persons furnishing such equipment, supplies, research, services, finances, credit, or personnel. The Commission shall include in its report its recommendations for necessary legislation in connection with such transactions, and shall report specifically whether in its opinion legislation should be enacted (1) authorizing the Commission to declare any such

transactions void or to permit such transactions to be carried out subject to such modification of their terms and conditions as the Commission shall deem desirable in the public interest; and/or (2) subjecting such transactions to the approval of the Commission where the person furnishing or seeking to furnish the equipment, supplies, research, services, finances, credit, or personnel is a person directly or indirectly controlling or controlled by, or under direct or indirect common control with such carrier; and/or (3) authorizing the Commission to require that all or any transactions of carriers involving the furnishing of equipment, supplies, research, services, finances, credit, or personnel to such carrier be upon competitive bids on such terms and conditions and subject to such regulations as it shall prescribe as necessary in the public interest.

(b) The Commission shall investigate the methods by which and the extent to which wire telephone companies are furnishing wire telegraph service and wire telegraph companies are furnishing wire telephone service, and shall report its finding to Congress, together with its recommendations as to whether additional legislation on this subject is desirable.

(c) The Commission shall examine all contracts of common carriers subject to this chapter which prevent the other party thereto from dealing with another common carrier subject to this chapter, and shall report its findings to Congress, together with its recommendations as to whether additional legislation on this subject is desirable.

Section 218, 47 U.S.C. § 218, provides:

The Commission may inquire into the management of the business of all carriers subject to this chapter, and shall keep itself informed as to the manner and method in which the same is conducted and as to technical developments and improvements in wire and

radio communication and radio transmission of energy to the end that the benefits of new inventions and developments may be made available to the people of the United States. The Commission may obtain from such carriers and from persons directly or indirectly controlling or controlled by, or under direct or indirect common control with, such carriers full and complete information necessary to enable the Commission to perform the duties and carry out the objects for which it was created.

Section 221, 47 U.S.C. § 221, provides:

• • •

(b) Subject to the provisions of section 301 of this title, nothing in this chapter shall be construed to apply, or to give the Commission jurisdiction, with respect to charges, classifications, practices, services, facilties, or regulations for or in connection with wire, mobile, or point-to-point radio telephone exchange service, or any combination thereof, even though a portion of such exchange service constitutes interstate or foreign communication, in any case where such matters are subject to regulation by a State commission or by local governmental authority.

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Section 301, 47 U.S.C. § 301, provides:

It is the purpose of this chapter, among other things, to maintain the control of the United States over all the channels of interstate and foreign radio transmission; and to provide for the use of such channels, but not the ownership thereof, by persons for limited periods of time, under licenses granted by Federal authority, and no such license shall be construed to create any right, beyond the terms, conditions, and periods of the license. No person shall use or operate any apparatus for the transmission of energy or communications or signals by radio (a) from one place

in any Territory or possession of the United States or in the District of Columbia to another place in the same Territory, possession, or District; or (b) from any State, Territory, or possession of the United States, or from the District of Columbia to any other State, Territory, or possession of the United States; or (c) from any place in any State, Territory, or possession of the United States, or in the District of Columbia, to any place in any foreign country or to any vessel; or (d) within any State when the effects of such use extend beyond the borders of said State, or when interference is caused by such use or operation with the transmission of such energy, communications, or signals from within said State to any place beyond its borders, or from any place beyond its borders to any place within said State, or with the transmission or reception of such energy, communications, or signals from and/or to places beyond the borders of said State; or (e) upon any vessel or aircraft of the United States; or (f) upon any other mobile stations within the jurisdiction of the United States, except under and in accordance with this chapter and with a license in that behalf granted under the provisions of this chapter.

Part 68 of the FCC Rules

(As amended February 13, 1976, March 12, 1976, March 18, 1976, July 12, 1976, October 5, 1976 and December 14, 1976)

CONNECTION OF TERMINAL EQUIPMENT TO THE TELEPHONE NETWORK

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Part 68 of the FCC Rules

CONNECTION OF TERMINAL EQUIPMENT
TO THE TELEPHONE NETWORK

SUBPART A—GENERAL

Section 68.1 *Purpose*

The purpose of the rules and regulations in this Part is to provide for uniform standards for the protection of the telephone network from harms caused by the connection of terminal equipment thereto.

Section 68.2 *Scope*

(a) Except as provided for in paragraphs (b) and (c), the rules and regulations in this Part apply to the direct connection after May 1, 1976 of all terminal equipment other than coin telephones, and PBX and key telephone equipment to the telephone network, for use in conjunction with all services other than party line service, and to the direct connection after August 1, 1976 of all terminal equipment other than coin telephones to the telephone network, for use in conjunction with all services other than party line service.

(b) Unless otherwise ordered by the Commission, all items of equipment, other than PBX and key telephone equipment, of a type directly connected to the network as of May 1, 1976 may be connected thereafter up to June 1, 1977—and may remain connected for life—without registration, unless subsequently modified.

(c) Unless otherwise ordered by the Commission, all PBX and key telephone equipment of a type directly connected to the network as of August 1, 1976 may be connected thereafter up to June 1, 1977—and may remain connected for life—without registration, unless subsequently modified.

Section 68.3 *Definitions*

As used in this part:

Direct Connection: Connection of terminal equipment to the telephone network by means other than acoustic and/or inductive coupling.

Harm: Electrical hazards to telephone company personnel, damage to telephone company equipment, malfunction of telephone company billing equipment, and degradation of service to persons other than the user of the subject terminal equipment, his calling or called party.

Interface: The point of interconnection between terminal equipment and telephone company communication facilities.

Longitudinal Voltage: One half the sum of the potential difference between the tip connection and earth ground, and the ring connection and earth ground.

Loop Simulator Circuit: A source of dc power and a load impedance for connection, in lieu of a telephone loop, to terminal equipment during testing. Figure 68.3 is a schematic drawing of the loop simulator. When used, the simulator shall be operated over the entire range of loop resistance as is indicated on the Figure, and with the indicated polarities and voltage limits. Whenever loop current is changed, sufficient time shall be allocated for the current to reach a steady-state condition before continuing testing.

Metallic Voltage: The potential difference between the tip and ring connections.

Multi-Port Equipment: Equipment that has more than one telephone connection with provisions internal to the equipment for establishing transmission paths among two or more telephone connections.

One-Port Equipment: Equipment which has either exactly one telephone connection, or a multiplicity of telephone

connections arranged so that no transmission among such telephone connections, within the equipment is intended.

Power Connections: The connections between commercial power and any transformer, power supply rectifier, converter or other circuitry associated with registered terminal equipment or registered protective circuitry. The following are not power connections:

(a) connections between registered terminal equipment or registered protective circuitry and sources of non-hazardous voltages.

(b) conductors which distribute any power within registered terminal equipment or within registered protective circuitry.

(c) green wire ground (the grounded conductor commercial power circuit which is UL-identified by a continuous green color).

Registered Protective Circuitry: Separate, identifiable and discrete electrical circuitry designed to protect the telephone network from harm, which is registered in accordance with the rules and regulations in Subpart C of this part.

Registered Terminal Equipment: Terminal equipment which is registered in accordance with the rules and regulations in Subpart C of this part.

Telephone Connection: Connection to telephone tip and ring and all connections derived from telephone tip and ring. The term "derived" as used here means that the connections are not separated from telephone tip and ring by a sufficiently protective dielectric barrier.

Telephone Network: The public switched telephone network.

[Figure 68.3 Is Omitted In This Appendix]

Subpart B—Conditions on Use of Terminal Equipment

Section 68.100 *General*

Terminal equipment may be directly connected to the telephone network in accordance with the rules and regulations in Subpart B of this Part.

Section 68.102 *Registration Requirement*

Terminal equipment must be registered in accordance with the rules and regulations in Subpart C of this Part, or connected through registered protective circuitry, which is registered in accordance with the rules and regulations in Subpart C of this Part.

Section 68.104 *Means of Connection*

(a) General

Except for telephone company-provided ringers and except as provided in subsection (c), all connections to the telephone network shall be made through the standard plugs and standard telephone company-provided jacks, or equivalent, described in Subpart F, in such a manner as to allow for easy and immediate disconnection of the terminal equipment. Standard jacks shall be so arranged that, if the plug connected thereto is withdrawn, no interference to the operation of equipment at the customer's premises which remains connected to the telephone network, shall occur by reason of such withdrawal.

(b) Data Equipment

Where a customer desires to connect data equipment which has been registered in accordance with Section 68.308(a)(4)(i) or (ii), he shall notify the telephone company of each telephone line to which he intends to connect such equipment. The telephone company, after determining the attenuation of each such telephone line between the interface and the telephone company central office, will make such connections as

are necessary in each standard data jack which it will install, so as to allow the maximum signal power delivered by such data equipment to the telephone company central office to reach but not exceed the maximum allowable signal power permitted at the telephone company central office.

(c) [Reserved]

Section 68.106 *Notification to Telephone Company*

Customers connecting terminal equipment to the telephone network shall, before such connection is made, give notice to the telephone company of the particular line(s) to which such connection is to be made and shall provide to the telephone company the F.C.C. Registration Number and the Ringer Equivalence Number of the registered terminal equipment or registered protective circuitry.

Section 68.108 *Incidence of Harm*

Should terminal equipment cause harm to the telephone network, the telephone company shall, where practicable, notify the customer that temporary discontinuance of service may be required; however, where prior notice is not practicable, the telephone company may temporarily discontinue service forthwith, if such action is reasonable in the circumstances. In case of such temporary discontinuance, the telephone company shall (1) promptly notify the customer of such temporary discontinuance, (2) afford the customer the opportunity to correct the situation which gave rise to the temporary discontinuance, and (3) inform the customer of his right to bring a complaint to the Commission pursuant to the procedures set out in Subpart E of this Part.

Section 68.110 *Compatibility of the Telephone Network and Terminal Equipment*

(a) Availability of Interface Information

Technical information concerning interface parameters not specified in this Part, including the number

of ringers which may be connected to a particular telephone line, which is needed to permit terminal equipment to operate in a manner compatible with telephone company communications facilities, shall be provided by the telephone company upon request.

(b) Changes in Telephone Company Facilities, Equipment, Operations or Procedures

The telephone company may make changes in its communications facilities, equipment, operations or procedures, where such action is reasonably required in the operation of its business and is not inconsistent with the rules and regulations in this Part. If such changes can be reasonably expected to render any customer's terminal equipment incompatible with telephone company communications facilities, or require modification or alteration of such terminal equipment, or otherwise materially affect its use or performance, the customer shall be given adequate notice in writing, to allow the customer an opportunity to maintain uninterrupted service.

SUBPART C—REGISTRATION PROCEDURES

Section 68.200 *Application for Equipment Registration*

An original and two copies of an application for registration of terminal equipment and protective circuitry shall be submitted on FCC Form 730 to the Federal Communications Commission, Washington, D.C. 20554. An application for original approval of an equipment type directly connected to the network on May 1, 1976 may be submitted as a short form application (unless the Commission specifically requests the filing of complete information). All other applications shall have all questions on the form answered and include the following information:

(a) Identification, technical description and purpose of the equipment for which registration is sought.

(b) The means, if any, employed to limit signal power into interface.

(c) A description of all circuitry employed in assuring compliance with Part 68 including the following:

(1) Specifications, including voltage or current ratings, of all circuit elements, whether active or passive, in that part of the device which provides the isolation means at the interface.

(2) A circuit diagram containing the complete circuit of that part of the device which provides the isolation means at the interface. If this portion of the device is subject to factory or field adjustment by the manufacturer's service agency, instructions for these adjustments shall be included. In addition, if the device is designed to operate from power supplied by electric utility lines, the circuit diagram shall also include that portion of the device connected to such lines, including the power supply to the internal circuits and whatever means are employed to isolate such utility lines, from the internal circuits.

(3) If a service manual is submitted, and any of these items are covered therein, it will be sufficient to list the pages in the manual on which the information specified in the item(s) appear.

(d) A statement that the terminal equipment or protective circuitry complies with and will continue to comply with the rules and regulations in Subpart D of this Part, accompanied by such test results, description of test procedures, analyses, evaluations, quality control standards and quality assurance standards as are necessary to demonstrate that such terminal equipment or protective circuitry complies with and will continue to comply with all the rules and regulations in Subpart D of this Part. The Office of Chief

Engineer may issue an OCE Bulletin describing acceptable test methods; other test methods may be employed provided they are fully described in the application and are found acceptable by the Commission.

(e) A photograph, sample, or drawing of the equipment label showing the information to be placed thereon.

(f) Photographs, 8" x 10" of the equipment of sufficient clarity to reveal equipment construction and layout and labels for controls, with sufficient views of the internal construction to define component placement and chassis assembly. Photographs smaller than 8" x 10" will be acceptable if mounted on paper 8" x 10" and of sufficient clarity for the purpose. Insofar as these requirements are met by photographs or drawings contained in service manual or instruction manual included with the application, additional photographs are required only to complete the required showing.

(g) If the device covered by the application is designed to operate in conjunction with other terminal devices, to couple their signals from or to the interface, the application shall list the class(es) of such other devices, together with their pertinent specification details.

Section 68.202 *Public Notice*

(a) The Commission will issue public notices of the filing of applications for equipment registration and the grants thereof. No grant will issue before 20 days from the date of the public notice of the filing of the application.

(b) The Commission will maintain lists of equipment for which it has granted registration and for which it has revoked registration.

Section 68.204 *Comments and Replies*

Comments may be filed as to any application for equipment registration within 20 days of the date of the public notice of its filing. Replies to such comments may be filed within 10 days of the date of filing of such comments. All comments must be served on the applicant and all replies must be served on all parties filing comments. An original and three copies of all comments and replies must be filed.

Section 68.206 *Grant of Application*

(a) The Commission will grant an application for equipment registration if it finds from an examination of such application and other matter which it may officially notice, that the equipment will comply with the rules and regulations in Subpart D of this Part, or that such grant will otherwise serve the public interest.

(b) Grants will be made in writing showing the effective date of the grant and any special condition(s) attaching to the grant.

(c) Equipment registration shall not attach to any equipment, nor shall any equipment registration be deemed effective, until the application has been granted.

Section 68.208 *Dismissal and Return of Application*

(a) An application which is not filed in accordance with the requirements of this Part or which is defective with respect to completeness of answers to questions, execution or other matters of a formal character, may not be accepted for filing by the Commission and may be returned as unacceptable for filing unless accompanied by a fully supported request for waiver.

(b) Any application, upon written request, may be dismissed prior to a determination granting or denying the equipment registration requested.

(c) If an applicant is requested by the Commission to furnish any additional documents, information or equipment not specifically required by this Subpart, a failure to comply with the request within the time, if any, specified by the Commission will result in the dismissal of such application.

Section 68.210 *Denial of Application*

If the Commission is unable to make the finding specified in Section 68.206 it will deny the application. Notification of the denial will include a statement of the reasons for the denial.

Section 68.212 *Assignment of Equipment Registration*

Commission equipment registration may not be assigned, exchanged or in any other way transferred to another party, without prior written notice to the Commission.

Section 68.214 *Changes in Registered Terminal Equipment and Registered Protective Circuitry*

No changes in registered terminal equipment and registered protective circuitry shall be made without prior written notice to the Commission. If such change in registered terminal equipment or registered protective circuitry results in any change in the information furnished the Commission pursuant to Section 68.200, the grantee shall submit a revised application for equipment registration in accordance with Section 68.200.

Section 68.216 *Repair of Registered Terminal Equipment and Registered Protective Circuitry*

Repair of registered terminal equipment and registered protective circuitry shall be accomplished only by the manufacturer or assembler thereof or by their authorized agent; however, routine repairs may be performed by a user, in accordance with the instruction manual if the applicant certifies that such routine repairs will not result in noncompliance with the rules and regulations in Subpart D of this Part.

Section 68.218 *Responsibility of Grantee of Equipment Registration*

(a) In applying for a grant of an equipment registration, the grantee warrants that each unit of equipment marketed under such grant will comply with all the applicable rules and regulations in Subpart D of this Part.

(b) The grantee or its agent shall provide to the user of the registered equipment the following:

(1) Instructions concerning installation, operational and repair procedures, where applicable.

(2) Instructions that registered terminal equipment or protective circuitry may not be used with party lines or coin lines.

(3) Instructions that when trouble is experienced the customer shall disconnect the registered equipment from the telephone line to determine if the registered equipment is malfunctioning and that if the registered equipment is determined to be malfunctioning, the use of such equipment shall be discontinued until the problem has been corrected.

(4) Instructions that the user must give notice to the telephone company in accordance with the requirements of Section 68.106.

(c) When registration is revoked for any item of equipment, the grantee is responsible to take all reasonable steps to ensure that purchasers and users of such equipment are notified of such revocation and are notified to discontinue use of such equipment.

Section 68.220 *Cross Reference*

Applications for registration of terminal equipment shall, in addition to the requirements of this Subpart, comply with the provisions of Subpart L of Part 2 of this Chapter.

Subpart D is amended as follows:

SUBPART D—CONDITIONS FOR REGISTRATION

Section 68.300 *Labelling Requirements*

(a) Registered terminal equipment and registered protective circuitry shall have prominently displayed on an outside surface the following information in the following format:

Complies With Part 68, FCC Rules
FCC Registration Number .....
Ringer Equivalence .....

(b) Registered terminal equipment and registered protective circuitry shall also have the following identifying information permanently affixed thereto:

(1) Grantee's name

(2) Model number, as specified in the registration application

(3) Serial number or date of manufacture

Section 68.302 *Environment Simulation*

Registered terminal equipment and registered protective circuitry shall comply with all the criteria contained in the rules and regulations in this Subpart, both prior to and after the application of each of the mechanical and electrical stresses specified in this section, not withstanding that certain of these stresses may result in partial or total destruction of equipment.

(a) Vibration

The equipment shall be subjected to vibration while in the condition that it is normally shipped or transported. That is, during the following vibration test the equipment shall be vibrated while packaged if

shipped packaged, or the equipment shall be vibrated while unpackaged if shipped unpackaged.

The following sinusoidal vibration should be applied once in each of three orthogonal directions, however, for large equipments, the unit should rest on the base or side on which it is normally shipped: One sweep at a level of 0.5g peak from 5 to 100 Hz, and one sweep at a level of 1.5g peak from 100 to 500 Hz. The 5 to 100 Hz sweep should be conducted at a sweep rate of 0.1 octave/min. (approximately 45 minutes) and the 100 to 500 Hz sweep at a rate of 0.25 octave/min. (approximately 10 minutes).

(b) Temperature and Humidity

Cycling at any convenient rate through the following temperature and humidity conditions three times: 30 minutes at 150°F and 15 percent relative humidity, followed by 30 minutes at 90°F and 90 percent relative humidity, followed by 30 minutes at −40°F and any convenient humidity.

(c) Shock:

(1) Registered Terminal Equipment and Registered Protective Circuitry Packaged for Shipment:

These tests are to be performed on a concrete surface with one package and its normal contents. If after six or more successive drops a package has sustained visible damage, the equipment under test may be repackaged before the packaged drop tests are resumed.

0-20 lbs:

One 30-inch face drop on each face and one 30-inch corner drop on each corner.

20-50 lbs:

One 24-inch face drop on each face and one 24-inch corner drop on each corner.

50-100 lbs:

One 21-inch face drop on each face and one 21-inch corner drop on each corner.

100-200 lbs:

One 18-inch face drop on each normal or designated rest face. One edgewise drop and one cornerwise drop from a height of 18 inches on each edge and corner adjacent to the rest face.

200-600 lbs:

One 12-inch face drop on each normal or designated rest face. One edgewise drop and one cornerwise drop from a height of 12 inches on each edge and corner adjacent to the rest face.

600-1000 lbs:

One 8-inch face drop on each normal or designated rest face. One edgewise drop and one cornerwise drop from a height of 8 inches on each edge and corner adjacent to the rest face.

Over 1000 lbs:

One 6-inch face drop on each normal or designated rest face. One edgewise drop from a height of 6 inches on each edge adjacent to the rest face.

(2) Registered Terminal Equipment and Registered Protective Circuitry Equipment Unpackaged:

Hand-Held Items Normally Used at Head Height:

18 random drops from a height of 60 inches onto concrete covered with ⅛ inch asphalt tile or similar surface.

Normally Customer Carried Equipment:

6 random drops from a height of 30 inches onto concrete covered with ⅛ inch asphalt tile or similar surface.

Equipment Not Normally Customer Carried:

These tests are made onto concrete covered with ⅛ inch asphalt tile or similar surface.

0-20 lbs:

One 6-inch face drop on each normal or designated rest face, one 3-inch drop on all other faces, and one 3-inch corner drop on each corner.

20-50 lbs:

One 4-inch face drop on each normal or designated rest face, one 2-inch face drop on all other faces, and one 2-inch corner drop on each corner.

50-100 lbs:

One 2-inch face drop on each normal or designated rest face. One edgewise drop and one cornerwise drop from a height of 2 inches on each edge and corner adjacent to the rest face.

100-1000 lbs:

One 1-inch face drop on each normal or designated rest face. One edgewise drop and one cornerwise drop from a height of 1 inch on each edge and corner adjacent to the rest face.

Over 1000 lbs:

One 1-inch face drop on each normal or designated rest face. One edgewise drop from a height of 1 inch on each edge adjacent to this rest face.

(3) The drop tests specified in the mechanical shock conditioning stresses shall be performed as follows:

Face Drop

The unit should be dropped such that the face to be struck is approximately parallel to the impact surface.

CORNER DROP

The unit should be dropped such that upon impact a line from the struck corner to the center of gravity of the packaged equipment is approximately perpendicular to the impact surface.

EDGEWISE DROP

The unit should be positioned on a flat test surface. One edge of the rest face should be supported with a block so that the rest face makes an angle of 20° with the horizontal. The opposite edge should be lifted the designated height above the test surface and dropped.

CORNERWISE DROP

The unit should be positioned on a flat test surface. One corner of the test face should be supported with a block so that the rest face makes an angle of 20° with the horizontal. The opposite corner should be lifted the designated height above the test surface and dropped.

RANDOM DROP

The unit should be positioned prior to release to ensure as nearly as possible that for every six drops there is one impact on each of the six major surfaces and that the surface to be struck is approximately parallel to the impact surface.

(d) Metallic voltage surge

Two 800-volt peak surges of a metallic voltage (one of each polarity) having a 10-microsecond *maximum* rise time to crest and a 560-microsecond *minimum* decay time to half crest applied between tip and ring and between any other pair of connections on which lightning surges may occur (with one of the connections of the pair under test grounded) with the equipment in each of the following states:

(1) any operational state which can affect compliance with the requirements of Part 68;

(2) any state in which the equipment might be connected to the telephone network and from which it is capable of transferring to an operational state by an automatic or manual action required for proper use of the equipment and provided that any such state can affect compliance with the requirements of Part 68; and

(3) any state in which the equipment might be connected to the telephone network through an automatic or manual action under all reasonably foreseeable possibilities of disconnection of connections of such equipment with primary commercial power sources (including possible loss of equipment grounding through disconnection of a third-wire ground connection contained in a primary power source plug).

During application of the surges, equipment states which cannot be achieved by normal means of power shall be achieved artificially by appropriate means, if necessary to comply with the above requirements. The peak current drawn from the surge generator must not be limited to less than 100 amperes by the capabilities of the surge generator.

(e) Longitudinal voltage surge

With registered terminal equipment and registered protective circuitry in each of the following states: *first*, any operational state which can affect compliance with the requirements of Part 68; *second*, any state in which the equipment might be connected to the telephone network and from which it is capable of transferring to an operational state by an automatic or manual action required for proper use of the equipment and provided that any such state can affect compliance with the requirements of Part 68;

and *third*, any state in which the equipment might be connected to the telephone network through an automatic or manual action under all reasonably foreseeable possibilities of disconnection of connections of such equipment with primary commercial power sources (including possible loss of equipment grounding through disconnection of a third-wire ground connection contained in a primary power source plug):

(1) Two 1500 volt peak surges (one of each polarity) having a 10 microsecond *maximum* rise time to crest and a 160 microsecond *minimum* decay time to half crest applied between tip and ring connected together, and individually to (i) and (ii) below:

(i) earth ground; and

(ii) all leads on the registered equipment intended for connection to nonregistered equipment when these leads are connected together.

The peak current drawn from the surge generator must not be limited to less than 200 amperes by the capabilities of the surge generator.

(2) Two 1500 volt peak surges (one of each polarity) having a 10 microsecond *maximum* rise time to crest and a 160 microsecond *minimum* decay time to half crest applied between pairs of connections other than tip and ring on which lightning surges may occur, connected together, and individually to (i) and (ii) below:

(i) earth ground; and

(ii) all leads on the registered equipment intended for connection to nonregistered equipment when these leads are tied together.

The peak current drawn from the surge generator shall not be limited to less than 200 amperes by the capabilities of the surge generator.

(3) Six 2500 volt peak surges (three of each polarity) having a 2 microsecond *maximum* rise time to crest and a 10 microsecond *minimum* decay time to half crest applied between the phase and neutral terminals of the ac power line. The peak current drawn from the surge generator must not be limited to less than 1000 amperes by the capabilities of the surge generator.

Section 68.304 *Leakage Current Limitations*

Registered terminal equipment and registered protective circuitry shall assure that, if a voltage source is connected to the combinations listed in the table below, of the following points on such equipment:

(1) all telephone connections,

(2) all power connections,

(3) all possible combinations of exposed conductive surfaces on the exterior of such equipment or circuitry excluding terminals for connection to other terminal equipment,

(4) all terminals for connection to nonregistered equipment, and

(5) points having a conducting path to the secondaries of any power supply

and is gradually increased, from zero to the values listed in the table below, over a thirty second time period, and then applied continuously for one minute, the current in the mesh formed by the voltage source and these points shall not exceed 10 milliamperes peak at any time during this 90 second time interval.

Voltages Applied for Various Combinations of Electrical Connections

Voltage Source Connected Between	Value to which test voltage is gradually increased, rms, 60 Hertz
(1) and (3)	1000
(1) and (4)	1000
(2) and (3)	1500
(2) and (4)	1500
(2) and (5)	1500

Section 68.306 *Hazardous Voltage Limitations*

(a) General

Under no condition of failure of registered terminal equipment or registered protective circuitry, or of equipment connected thereto, which can be conceived to occur in the handling, operation or repair of such equipment or circuitry, shall the open circuit voltage on telephone connections exceed 70 volts peak for more than one second, except for voltages for network control signaling and supervision, which, in any case, should be consistent with standards employed by the telephone companies.

(b) Connection of Non-Registered Equipment to Registered Terminal Equipment or Registered Protective Circuitry

(1) General

Leads to, or any element [illegible] conducting path to telephone connections shall be reasonably physically separated and restrained from; not routed in the same cable as; nor use the same connector as leads or metallic paths connecting to either power connections or to non-registered equipment.

(2) Connections to Registered Terminal Equipment

The voltage measurable between tip and ring, tip and ground, and ring and ground shall not exceed 70 volts peak for more than one second, as measured across the telephone connections terminated with 1500 ohms, tip to ring, center-tapped through 1000 ohms to ground, if 120 volts rms 60Hz ac is applied between all connections to other equipment tied together (except connections to non-hazardous voltage sources) and ground.

(3) Connections to Registered Protective Circuitry

The voltage measurable between tip and ring, tip and ground, and ring and ground shall not exceed 70 volts peak for more than one second, as measured across the telephone connections terminated with 1500 ohms, tip to ring, center-tapped through 1000 ohms to ground, if either 120 or 300 volts rms 60Hz ac is applied (i) between all protective circuitry connections other than telephone connections (and connections to non-hazardous voltage sources) tied together and ground, and (ii) across all protective circuitry connections other than telephone connections (and connections to non-hazardous voltage sources) which have a transmission path to the telephone connections, with alternate leads grounded, under all reasonable applications of earth ground to the protective circuitry.

(4) Non-hazardous Voltage Source

A voltage source is considered a non-hazardous voltage source if it conforms with the requirements of Sections 68.302, 68.304, and 68.306(b)(1), with all connections to the source other than primary power connections treated as "telephone

connections," and if such source supplies voltages no greater than the following under all modes of operation and of failure:

(i) ac voltages less than 42 volts peak;

(ii) dc voltages less than 80 volts; and

(iii) combined ac and dc voltages with the dc component between 21 and 80 volts, ac voltages less than $(55 - 0.6 \times V_{dc})$ peak.

Section 68.308 *Signal Power Limitations*

(a) Voiceband Metallic Signal Power

(1) *Limitations on internal signal sources not intended for network control signaling contained in voice equipment.* For all operating conditions of registered terminal equipment and registered protective circuitry, the maximum power of other than live voice signals delivered to a loop simulator circuit shall not exceed −9 dB with respect to one milliwatt, when averaged over any 3-second interval.

(2) *Limitations on internal signal sources primarily intended for network control signaling contained in voice and data equipment.* For all operating conditions of registered terminal equipment and registered protective circuitry, the maximum power delivered to a loop simulator circuit shall not exceed one milliwatt when averaged over any 3-second interval, during normal usage.

(3) *One port terminal equipment with provision for through transmission from other equipment, excluding data protective circuitry.* Registered terminal equipment and registered protective circuitry shall have no adjustments that will allow net amplification to occur in the through-transmission path within the frequency range

of 200 to 4000 Hertz, when measured from a 600 ohm source into a loop simulator circuit. The net gain of such equipment shall be designed so as not to exceed 0 dB; however, the gain for any single unit of registered terminal equipment or registered protective circuitry may exceed 0 dB by as much as 1.5 dB *provided that* the net gain, averaged over all such units, is no greater than 0 dB.

(4) *Data equipment.* For data applications, registered terminal equipment and registered protective circuitry in all operating conditions (other than (2) above) shall meet one of the following limits, depending upon the type of telephone interface. The transmitted data signal power, averaged over any 3-second time interval, delivered to a loop simulator circuit, shall not exceed:

(i) A maximum level adjustable to no greater than −4 dB with respect to one milliwatt, for connection to a telephone company provided data jack. (Fixed loss loop method.)

(ii) A maximum level set by means of connection in a telephone company-provided data jack, which level can be programmed in 1 dB steps from −12 dB to −3 dB with respect to one milliwatt. (Programmed method.)

(iii) A nonadjustable level no greater than −9 dB with respect to one milliwatt for connection to a standard telephone jack.

The maximum signal power specified in (i) and (ii) above may exceed the specified maximum level by as much as 1.0 dB, *provided that* the power, averaged over all units of the equipment

complies with the specified maximum. However, in order to protect against excessive signal power on loops with low insertion loss, no manufacturing tolerance is allowed which would permit the −9 dB with respect to one milliwatt maximum specified in (iii) above to be exceeded by any units.

(b) Metallic Signal Power at Frequencies Above Voiceband

(1) *Frequency band 3995-4005 Hertz.*

(i) *Power resulting from internal signal sources contained in registered protective circuitry and registered terminal equipment (voice and data), not intended for network control signaling.* For all operating conditions of registered terminal equipment and registered protective circuitry which incorporates signal sources other than sources intended for network control signaling, the maximum power delivered by such sources in the 3995-4005 Hertz band to a loop simulator circuit, shall be 18 dB below the maximum permitted power specified in (a) above, for the 200-4000 Hertz band.

(ii) *Terminal equipment with provision for through transmission from other equipments.* The loss in any through transmission path of registered terminal equipment and registered protective circuitry at any frequency in the 600 to 4000 Hertz band shall not exceed, by more than 3 dB, the loss at any frequency in the 3995 to 4005 Hertz band, when measured into a loop simulator circuit from a source which appears as 600 ohms across tip and ring.

(2) *Frequencies above 4005 Hertz.*

(i) Registered terminal equipment and registered protective circuitry with internal signal sources not intended for network control signaling shall not exceed the following limitations at the maximum transmitted power level.

(ii) Registered terminal equipment and registered protective circuitry with provision for through transmission from other equipments shall not exceed the following limitations, with a 1000 Hertz tone applied from a 600 ohm source (or, if appropriate, a source which reflects a 600 ohm impedance across tip and ring) at the maximum level that would be applied during normal operation. Registered protective circuitry for data shall also comply with the tone level 10 dB higher than that expected during normal operation.

(iii) Voice terminal equipment containing electro-accoustic transducers for live voice input, including recording devices, shall not exceed the following limitations, with a 1000 Hertz accoustic signal applied to the electro-accoustic transducers that results in a power delivered into the 600 ohm load impedance of −13 dB with respect to one milliwatt.

Frequency Band	Limitations on Maximum Power (dB with respect to one milliwatt)
4005 Hz to 10 kHz	−16
10 kHz to 25 kHz	−24
25 kHz to 40 kHz	−36
40 kHz to 1 MHz	−50

These limitations apply in all operating states of such equipment, except during network control signaling. In the off-hook state, they apply over the range of loop current that would flow with the equipment connected to a loop simulator circuit.

(c) Longitudinal Voltage Except During Network Control Signaling

At the telephone connections of registered terminal equipment and registered protective circuitry, the longitudinal voltage shall be less than the maximum voltages listed below when measured across the specified longitudinal termination and a 600 ohm metallic termination in the states and under the conditions specified in paragraph (b) above for metallic signal power above 4005 Hertz.

Frequency Band	Maximum Voltage (dBV)*	Longitudinal Termination Impedance (ohms)
100 Hz to 4 kHz	−53 (2.2 mV)	500
4 kHz to 10 kHz	−57 (1.4 mV)	500
10 kHz to 25 kHz	−62 (0.80 mV)	300
25 kHz to 40 kHz	−74 (0.20 mV)	200
40 kHz to 1 Mhz	−80 (0.10 mV)	200

(* dBV is the voltage in decibels relative to 1 volt rms.)

In the 100 to 4000 Hertz band, the −53 dBV limit applies to the longitudinal voltage that is the resultant of all the component voltages in that band after they are weighted according to the curve in Figure 68.308. The weighting curve in Figure 68.308 has an absolute gain of unity at 4000 Hertz. A circuit which provides a longitudinal termination impedance of 500 ohms is depicted in Figure 68.310(f) in the Longitu-

dinal Balance Limitations section of these Rules. The specific resistor values depicted therein should be appropriately changed to yield other Y-networks with a metallic termination of 600 ohms impedance and with the 200 and 300 ohm aggregate longitudinal termination impedances required in this section.

[Figure 68.308 Is Omitted In This Appendix]

Section 68.310 *Longitudinal Balance Limitations*

(a) *Technical Description and Application.* The metallic-to-longitudinal balance coefficient, $BALANCE_{m-l}$, is expressed as:

$$BALANCE_{m-l} = 20 \log_{10} \left| \frac{e_M}{e_L} \right|$$

where e_L is the longitudinal voltage produced across a 500-ohm longitudinal termination and e_M is the metallic voltage across the tip-ring interface of the input port when a voltage (at any frequency $200 < f < 4000$ Hertz) is applied from a balanced 600-ohm metallic source. The source voltage should be set such that $e_M = 0.775$ volts rms (O dBm) when a 600-ohm termination is substituted for the terminal equipment. The minimum balance coefficient shall be equalled or exceeded at all values of dc loop current that the port under test of the registered equipment is capable of drawing when attached to the loop simulator circuit specified in these Rules. A test circuit that satisfies the above conditions and may be used for measuring the metallic-to-longitudinal balance coefficient is shown in Figure 68.310(a). The minimum balance requirements specified below shall be equalled or exceeded under all reasonable conditions of the application of earth ground to the registered equipment:

Sub-paragraph	Equipment state	Minimum balance requirement	Frequency range (Hertz)
(b)	Both on-hook and off-hook	60 dB 40 dB	200 to 1000 1000 to 4000
(c)	on-hook	60 dB 40 dB	200 to 1000 1000 to 4000
	off-hook	40 dB	200 to 4000
(d)	off-hook	40 dB	200 to 4000
(e) voice equipment	Both on-hook and off-hook	60 dB 40 dB	200 to 1000 1000 to 4000
(e) data equipment	on-hook	60 dB 40 dB	200 to 1000 1000 to 4000
	off-hook	40 dB	200 to 4000
(f)	off-hook	40 dB	200 to 4000
(g)	Both on-hook and off-hook	60 dB 40 dB	200 to 1000 1000 to 4000
(h)	of-hook	40 dB	200 to 4000

(b) *Registered One-Port Equipment for Loop-Start. Non-data applications.* The one-port shall be driven from a 600-ohm metallic source having a 500-ohm longitudinal impedance.

(c) *Registered One-Port Equipment for Loop-Start. Data applications.* The one-port shall be driven from a 600-ohm metallic source having a 500-ohm longitudinal impedance.

(d) *Registered One-Port Equipment for Ground-Start applications.* The one-port shall be driven from a 600-ohm metallic source having a 500-ohm longitudinal impedance.

(e) *Registered Protective Circuitry For Loop Start Applications.* These criteria shall be met with either terminal of the interface to other equipment con-

nected to earth ground. The interface to other equipment shall be terminated in an impedance which will be reflected to the telephone connection as 600-ohms in the off-hook state of the registered protective circuit, and the interface should not be terminated in the on-hook state. Figure 68.310(e) shows the interface of the protective circuitry being tested and the required arrangement at the interface to other equipment.

(f) *Registered Protective Circuitry for Ground-Start Applications.* These criteria shall be met with either terminal of the interface to other equipment connected to earth ground. The interface to other equipment shall be terminated in an impedance which will be reflected to the telephone connection as 600-ohms in the off-hook state of the registered protective circuit. Figure 68.310(e) shows the interface of the protective circuitry being tested and the required arrangement at the interface to other equipment.

(g) *Registered Multi-Port Equipment for Loop Start Applications.* These criteria shall be satisfied for all ports when the ports are terminated in their appropriate networks for both their on-hook and off-hook states, as will be identified below, and when interface connections other than the ports are terminated in circuits appropriate to that interface. The minimum balance coefficients shall also be satisfied for all values of dc loop current that the registered equipment is capable of drawing through each of its ports when these ports are attached to the loop simulator circuit specified in these Rules. The port under test shall be driven from a 600-ohm metallic source having a 500-ohm longitudinal impedance. The terminations for all ports other than the particular one whose balance coefficient is being measured shall have a metallic impedance of 600 ohms and a longitudinal impedance of 500 ohms in their off-hook states, and

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they shall be unterminated in their on-hook states. Figure 68.310(g) shows this termination.

(h) *Registered Multi-Port Equipment for Ground Start Applications.* These criteria shall be satisfied for all ports when the ports are terminated in their appropriate networks for both their on-hook and off-hook states, as will be identified below, and when interface connections other than the ports are terminated in circuits appropriate to that interface. The minimum balance coefficients shall also be satisfied for all values of dc loop current that the registered equipment is capable of drawing through each of its ports when these ports are attached to the loop simulator circuit specified in these Rules. The port under test shall be driven from a 600-ohm metallic source having a 500-ohm longitudinal impedance. The terminations for all ports other than the particular one whose balance coefficient is being measured shall have a metallic impedance of 600 ohms and a longitudinal impedance of 500 ohms. in their off-hook states and they shall be unterminated in their on-hook states. Figure 68.310(g) shows this termination.

[Figures 68.310(a), (e) and (g) Are Omitted In This Appendix]

Section 68.312 *On-hook Impedance Limitations.*

(a) Limitations on individual equipment intended for parallel operation on loop-start telephone facilities, other than PBX equipment:

(1) Registered terminal equipment and registered protective circuitry shall conform to the following limitations, for each Ringing Type which is listed as part of its Ringer Equivalence:

(i) The dc resistance between tip and ring conductors, and between each of the tip and ring conductors and earth ground shall be

greater than 10 megohms for applied dc voltages not exceeding 100 volts.

(ii) The dc resistance between tip and ring conductors, and between each of the tip and ring conductors and earth ground shall be greater than 30 kilohms for applied dc voltages between 100 and 200 volts.

(iii) During the application of simulated ringing, as listed in Table I below, the total dc current, as a result of non-sinusoidal ac wave characteristics, shall not exceed 3.0 milliamperes.

(iv) During the application of simulated ringing, as listed in Table I below, the impedance between the tip and ring conductors (defined as the quotient of applied ac voltage divided by resulting true rms current) shall be greater than the value specified in Table I. Except as provided in sub-section (2) below, such impedance shall be less than 40 kilohms.

(v) During the application of simulated ringing, as listed in Table I below, the impedance between each of the tip and ring conductors and ground shall be greater than 100 kilohms.

(2) Registered terminal equipment and registered protective circuitry intended for use on facilities which always will have additional ringing detection circuitry in use at the same time such registered terminal equipment and registered protective circuitry is connected need not comply with the 40 kilohm maximum impedance specification of subsection (a)(1)(iv), above.

(b) Ringer Equivalence definition. The values of each of the parameters for which a limitation is imposed

in sub-section (a) above shall be determined for a representative unit under test. Quotients of each such value shall be formed in accordance with the following:

(1) 50 megohms divided by the minimum measured on-hook dc resistance for dc voltages not exceeding 100 volts.

(2) 150 kilohms divided by the minimum measured on-hook dc resistance for dc voltages between 100 and 200 volts.

(3) The maximum total dc current which flows during the application of simulated ringing, as a result of non-sinusoidal ac wave characteristics, as listed in Table I below, in milliamperes divided by 0.6 milliamperes.

(4) Five times the impedance limitation listed in Table I, below, divided by the minimum measured ac impedance, defined as in sub-section (a)(1)(iv) above, during the application of simulated ringing as listed in Table I.

The largest of the unitless quotients so formed followed by the Ringing Type letter indicator, representing the frequency range for which that number is valid, is the Ringer Equivalence. If Ringer Equivalence is to be stated for more than one Ringing Type, testing shall be performed at each frequency range to which Ringer Equivalence is to be determined in accordance with the above, and the largest resulting Ringer Equivalence number so determined will be associated with each Ringing Type letter designation for which it is valid.

[Table I Is Omitted In This Appendix]

Section 68.314 *Billing Protection.*

(a) *Call duration requirements on data equipment.* Registered data terminal equipment and registered pro-

tective circuitry shall comply with the following requirements when answering an incoming call, except in off-hook states in which signals are transmitted and/or received by electroacoustic transducers only:

(1) Registered Protective Circuitry.

Registered protective circuitry connected to associated data equipment shall assure that the following signal power limitations are met for at least 2 seconds after the off-hook condition is presented to the telephone network in response to an incoming call:

(i) signals that appear at the protective circuitry-telephone network interface for delivery to the telephone network shall be limited to −55 dB with respect to one milliwatt as such signals are delivered into a loop simulator circuit; and

(ii) signals that appear at the protective circuitry-associated data equipment interface for delivery to associated data equipment shall be limited as follows: for any received signal power (appearing at the protective circuitry-telephone network interface) up to 0 dB with respect to one milliwatt (at any frequency in the range of 200 to 3200 Hertz), the power of signals delivered to associated data equipment shall be no greater than the signal power that would be delivered as a result of received signal power of −55 dB with respect to one milliwatt.

(2) Registered Terminal Equipment.

Registered terminal equipment for data applications shall assure that, when an incoming tele-

phone call is answered, the answering terminal equipment prevents both transmission and reception of data for at least 2 seconds after the answering terminal equipment transfers to the off-hook condition. For the purpose of this requirement, a fixed sequence of signals that is transmitted (and originated within) and/or received by the registered terminal equipment each time it answers an incoming call shall not be considered data, provided that such signals are for one or more of the following purposes:

(i) disabling echo suppressors,

(ii) adjusting automatic equalizers and gain controls,

(iii) establishing synchronization, or

(iv) signaling the presence and if required, the mode of operation, of the data terminal at the remote end of a connection.

(b) *Voice and data equipment requirements.* Registered protective circuitry and registered terminal equipment shall comply with the following:

(1) In the on-hook state, power delivered into a loop simulator circuit shall not exceed −55 dB with respect to one milliwatt within the frequency band of 200 to 4000 Hertz. Registered protective circuitry shall additionally assure that for any input power level up to 10 dB above the maximum level that is expected under normal operation, the power delivered into the loop simulator circuit in the on-hook state does not exceed the above limits.

(2) The loop current through registered terminal equipment or registered protective circuitry, when connected to a loop simulator circuit with the 600-ohm resistor and 500 microfarad capaci-

tor therein disconnected, shall, for at least 5 seconds after the equipment goes to the normal off-hook state which would occur in response to ringing (called party condition), not decrease by more than 25 percent from its maximum value attained during this 5-second interval, unless the equipment is returned to the on-hook state during the above 5-second interval.

(3) Registered terminal equipment and registered protective circuitry shall not deliver signals into a loop simulator circuit from sources internal to the registered equipment with energy in the 2450 to 2750 Hertz band unless an at least equal amount of energy is present in the 800 to 2450 Hertz band.

SUBPART E—COMPLAINT PROCEDURES

Section 68.400 *Content*

A complaint shall be in writing and shall contain: (a) the name and address of the complainant, (b) the name (and address, if known) of the defendant against whom the complaint is made, (c) a complete statement of the facts, including supporting data, where available, showing that such defendant did or omitted to do anything in contravention of Part 68 of the Commission's Rules, and (d) the relief sought.

Section 68.402 *Amended Complaints*

An amended complaint setting forth transactions, occurrences or events which have happened since the filing of the original complaint and which relate to the original cause of action may be filed with the Commission.

Section 68.404 *Number of Copies*

An original and two copies of all complaints and amended complaints shall be filed. An original and one copy of all other pleadings shall be filed.

Section 68.406 *Service*

(a) The Commission will serve a copy of any complaint or amended complaint filed with it, together with a notice of the filing of the complaint. Such notice shall call upon the defendant to satisfy or answer the complaint in writing within the time specified in said notice of complaint.

(b) All subsequent pleadings and briefs shall be served by the filing party on all other parties to the proceeding in accordance with the requirements of Section 1.47. Proof of such service shall also be made in accordance with the requirements of said section.

Section 68.408 *Answers to Compaints and Amended Complaints*

Any party upon whom a copy of a complaint or amended complaint is served under this subpart shall serve an answer within the time specified by the Commission in its notice of complaint. The answer shall advise the parties and the Commission fully and completely of the nature of the defense, and shall respond specifically to all material allegations of the complaint. In cases involving allegations of harm, the answer shall indicate what action has been taken or is proposed to be taken to stop the occurrence of such harm, both in terms of future production and with reference to articles in the possession of distributors, sellers, and users. Collateral or immaterial issues shall be avoided in answers and every effort should be made to narrow the issues. Matters alleged as affirmative defenses shall be separately stated and numbered. Any defendant failing to file and serve an answer within the time and in the manner prescribed may be deemed in default.

Section 68.410 *Replies to Answers or Amended Answers*

Within 10 days after service of an answer or an amended answer, a complainant may serve a reply which shall be responsive to matters contained in such answer or amended

answer and shall not contain new matters. Failure to reply will not be deemed an admission of any allegation contained in such answer or amended answer.

Section 68.412 *Defective Pleadings*

Any pleading filed in a complaint proceeding not in substantial conformity with the requirements of the applicable rules in this part may be dismissed.

[Subpart F, Consisting Primarily of Diagrams, Is Omitted From This Appendix]

UNITED STATES COURT OF APPEALS
FOR THE FOURTH CIRCUIT

No. 76-1002

NORTH CAROLINA UTILITIES COMMISSION
Petitioner

v.

FEDERAL COMMUNICATIONS COMMISSION and
THE UNITED STATES OF AMERICA
Respondents

INTERNATIONAL BUSINESS MACHINES CORPORATION

INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION

THE INDEPENDENT DATA COMMUNICATIONS MANUFACTURERS ASSOCIATION, INC.

THE NORTH AMERICAN TELEPHONE ASSOCIATION

THE COMPUTER AND BUSINESS EQUIPMENT MANUFACTURERS ASSOCIATION

UTILITIES TELECOMMUNICATIONS COUNCIL

THE CENTRAL COMMITTEE ON TELECOMMUNICATIONS OF THE AMERICAN PETROLEUM INSTITUTE
Intervenors

No. 76-1152

UNITED STATES INDEPENDENT TELEPHONE ASSOCIATION
Petitioner

v.

FEDERAL COMMUNICATIONS COMMISSION and
THE UNITED STATES OF AMERICA
Respondents

COMPUTER AND BUSINESS EQUIPMENT MANUFACTURERS ASSOCIATION

INDEPENDENT DATA COMMUNICATIONS MANUFACTURERS ASSOCIATION, INC

NORTH AMERICAN TELEPHONE ASSOCIATION

Intervenors

and

ROLLINS PROTECTIVE SERVICE

Intervenor

No. 76-1292

RIXON, INC.

Petitioner

v.

FEDERAL COMMUNICATIONS COMMISSION and THE UNITED STATES OF AMERICA

Respondents

INDEPENDENT DATA COMMUNICATION MANUFACTURERS ASSOCIATION, INC.

Intervenor

No. 76-1415

AMERICAN TELEPHONE AND TELEGRAPH, ET AL

Petitioners

v.

FEDERAL COMMUNICATIONS COMMISSION and THE UNITED STATES OF AMERICA

Respondents

No. 76-1416

CONTINENTAL TELEPHONE CORPORATION

Petitioner

v.

FEDERAL COMMUNICATIONS COMMISSION and THE UNITED STATES OF AMERICA

Respondents

No. 76-1443

ROCHESTER TELEPHONE CORPORATION

Petitioner

v.

FEDERAL COMMUNICATIONS COMMISSION and
THE UNITED STATES OF AMERICA

Respondents

No. 76-1467

UNITED SYSTEM SERVICE, INC., ET AL.

Petitioners

v.

FEDERAL COMMUNICATIONS COMMISSION and
THE UNITED STATES OF AMERICA

Respondents

NORTH AMERICAN TELEPHONE ASSOCIATION

AERONAUTICAL RADIO, INC.

Intervenors

Order

FILED APRIL 29, 1976

I have been assigned the various motions to stay the First Report and Order, Adopted October 31, 1975, and the Second Report and Order, Adopted March 18, 1976, of the Federal Communications Commission, in FCC Docket No. 19528, pending judicial review. As all the other circuit judges in this circuit are disqualified and the other judges who will comprise the panel have not yet been designated, I consider this matter as a single circuit judge under FRAP 18, considering this an exceptional case due to the requirements of time, the orders which are subject to review becoming effective May 1, 1976, only days away, and additionally being on a weekend not a normal workday

for many people. I think the various motions for a stay should be acted on a day or so before May 1.

I am advised that requests for stays of the orders complained of have already been made to the FCC by some of the parties to this proceeding and have been denied.

In considering whether or not to grant a stay of the orders complained of pending review, I have considered the likelihood of prevailing on the merits of the review; whether or not those seeking the stay will suffer irreparable injury; the harm a stay would cause to the parties interested in the proceeding; and the public interest.

While one of the principal questions in these petitions for review, that of the jurisdiction of the FCC to enter the orders complained of, has been largely decided adversely to the position of the carriers in our opinion in *NCUC v. FCC*, Nos. 74-1220, et al (4th Cir., April 14, 1976) (NCUC I), thus making the likelihood of success on that question at best less than favorable, NCUC I did not resolve all of the questions which may be raised in this review, including, but not exclusively, the power of the FCC to require registration and approval of carrier-provided equipment; whether or not the economic consequences of the FCC action should have been taken into account prior to entering the orders complained of; whether or not it is proper to enter orders ostensibly based on lack of technical harm to the telephone system and separating the orders' economic effect, while at the same time requiring registration and approval of carrier-owned equipment only for its economic competitive effect; whether the economic benefits to some resulting from competition would result in economic detriment to the ordinary telephone subscriber so the effect of competition would be to pass along the cost of it to those whom it would not or might not benefit; what effect, if any, the orders of the FCC will have on the rates to the ordinary telephone sub-

scriber; as well as a multitude of others too numerous to mention. I mention these questions because they have been suggested by some of the various parties or have come to mind in reading the papers in these cases, and my mention of them should indicate no suggestion of issues or order of priority, or whether or not they may or should be raised, but only to show the multitude of problems which may be encountered in judicial review of the orders complained of. As I read the papers now before me, the resolution of many of the problems is far from certain.

While it is true that the moving parties here are largely telephone companies, and thus regulated utilities, and that any losses which may occur may not in the true sense be deemed irreparable in that the injury is not capable of restitution, it is equally true that the telephone subscribers throughout the country are going to have to pay for any costs which the FCC orders may occasion, one way or another. Nothing before me now shows that the orders complained of will not require a complete change in the rating structure of the various telephone companies throughout the United States which has existed with little variation for generations, and effecting such changes for every telephone subscriber in the United States cannot but cost countless millions. The cost of changing the rating structure is irretrievable and must be paid by the subscribers. Of like import is the cost of registration of carrier-provided equipment, whatever the actual cost may be. That cost will be paid by the subscribers and will be irretrievable. Should the petitioners prevail in this review, a changing back to the present system would double the irretrievable cost to the subscribers. The assertion by the FCC that it is not the carriers who will have to pay the cost, but rather their subscribers, seems to me, rather than being a reason not to grant the stay, a reason to grant it. I would apply the same reasoning to the argument of the FCC that it may now assert its primary jurisdiction and determine the economic wisdom of the assertion of the

jurisdiction later. It is the subscribers of the telephone companies who are going to have to pay for this experiment and if the experiment should not have been tried in the first place, the fact the subscribers are having to pay for it, whether it is wise or unwise, or legal or illegal, is another reason to stay the orders until their validity can be judicially ascertained.

The question of harm to those interested in the orders complained of necessarily concerns itself with the effect of maintaining the status quo, which is what those seeking the stay effectively ask for. The equipment manufacturers and manufacturing companies, as well as others, which are those largely opposing the stay, stand to lose anticipated profits from the sale of equipment to attach to the telephone system on the one hand and anticipated savings from the use of such equipment on the other. There is little or no loss to those opposing the stay other than the contemplated financial advantage to take effect in the future. Even assuming and discounting, arguendo, the telephone companies claims of ultimate financial disadvantage because they are regulated and, subject to approval by appropriate regulatory bodies, may adjust their rates to compensate, placing the orders into effect, as mentioned before, will result in at least a one-time loss of the cost of the registration program and the cost of placing into effect a new rating structure. These costs are immediate and will be necessarily required. The fact of such losses is neither contemplative nor speculative, while their amounts may be subject to some contention. Maintaining the status quo, then, will do little or no harm to those opposing the stay, other than in anticipated and speculative future savings and profits, while the effect on the present subscribers of the telephone companies, as well as on the companies themselves, is certain to occur, while the amount may be uncertain, and irretrievable unless balanced by anticipated future savings which are speculative at best.

It is apparent that the FCC has entered the orders complained of because it considers the public interest to be in the beneficial effects of competition. Historically, as well as legally, competition has meant lower prices. But public utilities are legally obligated to serve all at reasonable rates. That is their common denominator and includes telephone companies. What the effect of the orders complained of will be on the various telephone companies serving all their subscribers at reasonable rates is not divulged in the FCC orders. Assuming the advantages of competitive pricing which will be brought about by the FCC orders, if the result is passing these savings on to the telephone subscribers to pay for by way of increased rates, is the public interest served? Nothing before me indicates any consideration of the effect on the ordinary subscriber's telephone bill by the orders complained of. It is idle to say that the public is not interested in the amount paid for its telephone service. Assuming the FCC jurisdiction to issue the orders complained of under NCUC I, the question of where lies the public interest is as important an issue in this case as any other. And, while regulatory bodies may be to a large extent entrusted with the ascertaining of the public interest, their decisions may not be arbitrary or capricious, and their reasoning processes are subject to judicial review unless Congress has otherwise provided, which it has not done here. Whether or not the telephone bill to the ordinary telephone subscriber will be raised or lowered by the orders complained of, I consider to be a matter in the public interest. At the very least, whether the FCC should act before that matter is considered can only be said to be in the public interest.

I am thus of opinion, while the question of success on the merits of the case may be uncertain, consideration of irreparable injury, harm to those interested by maintaining the status quo, and the public interest, requires a stay to issue in these cases.

It is accordingly ADJUDGED AND ORDERED as follows:

I

The motions filed by the various petitioners to stay the First Report and Order, Adopted October 31, 1975, and the Second Report and Order, Adopted March 18, 1976, in FCC Docket No. 19528, are granted, and the FCC is stayed and enjoined, pending the petitions for review, from implementing any regulatory act which is the subject matter of the various petitions for review while the said petitions are pending in this court, without leave of court previously obtained.

Enter this 28th day of April, 1976.

/s/ H. E. WIDENER, JR.
H. E. Widener, Jr.
United States
Circuit Judge

UNITED STATES COURT OF APPEALS
FOR THE FOURTH CIRCUIT

No. 76-1002

NORTH CAROLINA UTILITIES COMMISSION
Petitioner

v.

FEDERAL COMMUNICATIONS COMMISSION
and UNITED STATES OF AMERICA
Respondents

INTERNATIONAL BUSINESS MACHINES CORPORATION

INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION

THE INDEPENDENT DATA COMMUNICATIONS MANUFACTURERS ASSOCIATION, INC.

THE NORTH AMERICAN TELEPHONE ASSOCIATION

THE COMPUTER AND BUSINESS EQUIPMENT MANUFACTURERS ASSOCIATION

UTILITIES TELECOMMUNICATIONS COUNCIL

THE CENTRAL COMMITTEE ON TELECOMMUNICATIONS OF THE AMERICAN PETROLEUM INSTITUTE
Intervenors

No. 76-1152

UNITED STATES INDEPENDENT TELEPHONE ASSOCIATION
Petitioner

v.

FEDERAL COMMUNICATIONS COMMISSION
and UNITED STATES OF AMERICA
Respondents

COMPUTER AND BUSINESS EQUIPMENT MANUFACTURERS ASSOCIATION, INC.

NORTH AMERICAN TELEPHONE ASSOCIATION

Intervenors

and

ROLLINS PROTECTIVE SERVICE

Intervenor

No. 76-1292

RIXON, INC.

Petitioner

v.

FEDERAL COMMUNICATIONS COMMISSION and UNITED STATES OF AMERICA

Respondents

INDEPENDENT DATA COMMUNICATION MANUFACTURERS ASSOCIATION, INC.

Intervenor

No. 76-1415

AMERICAN TELEPHONE AND TELEGRAPH, ET AL

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v.

FEDERAL COMMUNICATIONS COMMISSION and UNITED STATES OF AMERICA

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No. 76-1416

CONTINENTAL TELEPHONE CORPORATION

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v.

FEDERAL COMMUNICATIONS COMMISSION and UNITED STATES OF AMERICA

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v.

FEDERAL COMMUNICATIONS COMMISSION
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Respondents

No. 76-1467

UNITED SYSTEM SERVICE, INC., ET AL

Petitioners

v.

FEDERAL COMMUNICATIONS COMMISSION
and UNITED STATES OF AMERICA

Respondents

NORTH AMERICAN TELEPHONE ASSOCIATION

AERONAUTICAL RADIO, INC.

PHONE-MATE, INC.

Intervenors

No. 76-1502

PUBLIC UTILITIES COMMISSION OF OHIO

Petitioner

v.

FEDERAL COMMUNICATIONS COMMISSION
and UNITED STATES OF AMERICA

Respondents

NASA CORPORATION

Intervenor

Filed June 16, 1976

It is ADJUDGED AND ORDERED as follows:

This court's order of April 28, 1976, staying the First Report and Order and Second Report and Order, in FCC Docket 19528, is vacated to the extent that it prohibited the First Report and Order from becoming effective as applied to customer-provided ancillary and data equipment. The stay of the first order is not vacated as it may apply to all extension telephones. This court's stay of the First Report and Order remains in effect as it pertains to carrier-provided ancillary and data equipment, and all other carrier-provided terminal equipment, including extension telephones, and the stay of the Second Report and Order remains wholly in effect.

With the concurrences of Judge Rives and Judge Tuttle.

/s/ H. E. WIDENER, JR.
H. E. Widener, Jr.
For the Court

UNITED STATES COURT OF APPEALS
FOR THE FOURTH CIRCUIT

Nos. 76-1002, 76-1152, 76-1292, 76-1415, 76-1416, 76-1443, 76-1467, and 76-1502

NORTH CAROLINA UTILITIES COMMISSION, ET AL.,
Petitioners,

v.

FEDERAL COMMUNICATIONS COMMISSION
and UNITED STATES OF AMERICA
Respondents,

INTERNATIONAL BUSINESS MACHINES CORP., ET AL.,
Intervenors.

Order

FILED APRIL 28, 1977

We have considered the motions for a stay of the mandate in these cases and the opposition filed thereto by the Respondent, Federal Communications Commission.

In accordance with FRAP 41(b), issuance of the mandate in these cases, pending application to the Supreme Court for a writ of certiorari, shall be, and it hereby is, stayed for a period of thirty (30) days.

The stay order of June 16, 1976, partially staying the FCC orders involved herein, is to remain in full effect while this order staying issuance of the mandate is effective.

With the concurrences of Judge Rivers and Judge Tuttle.

/s/ H. E. WIDENER, JR.
H. E. Widener, Jr.
For the Court

Supreme Court, U. S.
FILED
AUG 18 1977
MICHAEL RODAK, JR., CLERK

No. 76-1677

IN THE

Supreme Court of the United States

OCTOBER TERM, 1976

AMERICAN TELEPHONE AND TELEGRAPH COMPANY, ET AL.,
Petitioners,

v.

FEDERAL COMMUNICATIONS COMMISSION and the
UNITED STATES OF AMERICA, ET AL., *Respondents.*

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Fourth Circuit

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REPLY OF PETITIONERS

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August 1977

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On Petition for a Writ of Certiorari to the United States Court of Appeals for the Fourth Circuit

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REPLY OF PETITIONERS

Petitioners submit this reply in response to the opposition to certiorari filed by respondent-intervenors ("ARINC Br."). The intervenors' opposition offers no persuasive reason for denying certiorari. On the contrary, their arguments confirm that this case presents questions of extreme importance and involves direct conflicts with decisions of this Court and other federal courts.

I. The FCC's Jurisdictional Claim Poses a Recurring Issue of Extreme Importance Which Was Erroneously Resolved by the Court Below.

In urging review of the FCC's jurisdictional claim, petitioners showed that the registration program will affect millions of pieces of terminal equipment (Pet. 21); that it threatens to cost the public hundreds of millions of dollars in less than a decade (Pet. 10); and that it will drastically alter the way in which telephone service has long been provided in this country (Pet. 21). Without directly contesting these facts, intervenors appear to contend—quite wrongly—that the decision below is sufficiently consistent with the statute and precedent that review is unwarranted despite the importance of the case.

1. Everyone who has seriously addressed the basic jurisdictional issue in this case, including the court below (Pet. App. 11a-16a), has recognized that the central question is the meaning of the Communication Act's limiting proviso: "nothing in this Act" shall give the FCC power over "facilities" which are used "for or in connection with" intrastate or exchange communication. Pet. 17. Yet, the intervenors never even acknowledge this statutory language in their opposition. Instead, in a single footnote, intervenors ignore the statute's words and offer their own characterization which bears no resemblance to what Congress actually said in the Act.

Thus, intervenors baldly assert (ARINC Br. 12 n.2[illegible]) that Section 2(b)(1) "precludes the exercise of FCC jurisdiction only over facilities and services that are technically and practically separable from interstate communications service." But Section 2(b)(1) says no

such thing. It states that "nothing in this Act shall be construed to apply or give the Commission jurisdiction with respect to . . . facilities . . . for or in connection with intrastate communication service . . . ." And Section 221(b) reiterates this prohibition for "facilities" used "for or in connection with . . . telephone exchange service . . . ."

Neither provision contains any indication that Congress intended it to apply only to those facilities, used for intrastate and exchange service, which are "separable from interstate communication service."[1] On the contrary, petitioners have already shown (Pet. 20) that Congress, in enacting the Communications Act, included the limitations on FCC authority for the express purpose of protecting existing state jurisdiction, which had long encompassed facilities used for interstate as well as intrastate and exchange communications (Pet. 5-6, 22-23 & n.34), "against being overridden by [the FCC]."[2]

Intervenors do not deny that the registration orders assert "jurisdiction" over and seek to "apply" the Act

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[1] Indeed, there are practically no significant "facilities" that would meet intervenors' test. One of the anomalies of the lower court's opinion is that it renders the "facilities" reservation almost meaningless, in direct violation of the principle that a statute should be "construe[d] . . . so as to give effect to all of its terms." *Donaldson, Hoffman & Goldstein* v. *Gaudio*, 260 F.2d 333, 336 (10th Cir. 1958). See also *United States* v. *Menasche*, 348 U.S. 528, 538-39 (1955).

[2] *Hearings on S. 2910 Before the Senate Comm. on Interstate Commerce*, 73d Cong., 2d Sess. 179 (1934). It was well known prior to the Act that exchange facilities—although predominantly used for intrastate and exchange service—handled interstate calls as well. See Pet. 5; *Smith* v. *Illinois Bell Tel. Co.*, 282 U.S. 133, 146-47 (1930).

to "facilities" (specifically, terminal equipment) used "for and in connection with" both "intrastate" and "exchange" service. Consequently, there exists a direct conflict between the express terms of Sections 2(b)(1) and 221(b) and the FCC's registration orders.[3] Unable to offer any way to resolve this conflict, the intervenors' response is simply to ignore it, apparently in the hope that the Court will do likewise. However, the conflict cannot be ignored if the jurisdictional limits expressly established by Congress are to be preserved; and to preserve those limits, review by this Court is essential.

2. In opposing review of the jurisdictional issue, intervenors rely primarily on the claim that several Circuits have sustained the FCC's authority to regulate terminal equipment and other facilities even though such facilities may be used for intrastate and exchange service as well as interstate service. ARINC Br. 8-9. They imply that there is general harmony among the Circuits on the jurisdictional issue and confidence that the issue is readily resolved. A very different conclusion emerges upon examining the views of the three Circuits that have considered the issue:

a. *Fourth Circuit.*—The Fourth Circuit has addressed the jurisdictional issue in the decision below and in *North Carolina I.*[4] Both decisions were rendered by

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[3] Within this context, intervenors' reliance (ARINC Br. 12) on the FCC's supposedly "broad authority" simply begs the legal question to be answered. Whatever authority the FCC otherwise has over telecommunications under Title II of the Communications Act, such authority is necessarily qualified by the jurisdictional limitations expressly imposed in Sections 2(b)(1) and 221(b). Congress could not have chosen clearer language—"nothing in this Act"—to make plain its intent that Sections 2(b)(1) and 221(b) override and delimit any other grant of authority contained in the Act, however "broad" such grant might be said to be.

[4] *North Carolina Utilities Comm'n* v. *FCC*, 537 F.2d 787 (1976), *cert. denied*, 45 U.S.L.W. 3432 (U.S. Dec. 13, 1976).

divided panels with vigorous dissents; neither decision was subject to en banc consideration because of disqualifications in the Circuit. The extent of that court's confidence in its resolution of the jurisdictional issue is demonstrated by the fact that it felt impelled to reconsider the jurisdictional issue fully in the present case and to provide an analysis differing from that offered less than a year before in *North Carolina I*.

b. *District of Columbia Circuit.*—In *California* v. *FCC*, No. 75-2060 (D.C. Cir., filed June 20, 1977), the District of Columbia Circuit rejected the argument that Sections 2(b)(1) and 221(b) barred FCC regulation of a particular type of intrastate service. The decision was rendered in a brief per curiam opinion over a painstaking dissent by Judge Robinson who made clear that, in his view, Congress had adopted Section 2(b)(1) specifically in order "to 'reserve[] to the states exclusive jurisdiction over intrastate telephone and telegraph communications' . . . ." Slip Op. at 4.

Nevertheless, intervenors claim the *California* per curiam clearly signals that the District of Columbia Circuit has "joined" the Fourth Circuit in affirming the FCC's authority over terminal equipment used "for or in connection with" intrastate and exchange service. ARINC Br. 9. But the intervenors neglect to note that the District of Columbia Circuit has rendered another decision on the jurisdictional issue which is at odds with the *California* per curiam and which is even more clearly on point since, like the present case, it involved "facilities" rather than "services."

In *Kitchen* v. *FCC*, 464 F.2d 801 (1972), the Circuit squarely rejected the claim that the FCC had authority to regulate a telephone exchange facility even though

the facility—like terminal equipment—allegedly would handle some interstate as well as exchange communications. The Circuit ruled that Section 221(b) expressly "precluded" an exercise of federal jurisdiction over the facility, even assuming the facility were otherwise within the FCC's authority under other provisions of Title II. *Id.* at 803. The *Kitchen* decision, which the *California* per curiam does not even cite, belies any suggestion that the District of Columbia Circuit has unequivocally accepted FCC primacy over facilities used both for interstate and for intrastate and exchange service.

c. *First Circuit.*—Recently, in *Puerto Rico Telephone Co.* v. *FCC,* 553 F.2d 694 (1977), the First Circuit held that the FCC has jurisdiction over certain facilities used in "intrastate and exchange service." However, in so doing, the court acknowledged that "[r]ead literally, [Sections 2(b)(1) and 221(b)] do appear to preclude" the FCC's exercise of jurisdiction. *Id.* at 698. Against this background, the court itself admitted that the statutory language left its resolution of the jurisdictional issue "far from free of doubt" (*id.* at 699)—an admission hardly suggesting certitude.

In summary, contrary to the intervenors' suggestions, the Circuit courts' decisions reflect a pattern of uncertainty and sharp division which makes clear that the FCC's jurisdictional claim underlying the registration program is neither straightforward nor well settled.[8] Indeed, the decision in *Kitchen* reveals an out-

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[8] The intervenors also imply that review of the jurisdictional issue is inappropriate because certiorari was denied in *North Carolina I.* ARINC Br. 9. However, by now, it is axiomatic that "a denial of a petition for certiorari carries no legal significance."

right conflict not only among the decisions of the District of Columbia Circuit but also with the decisions of the other Circuits, including the decision below. Such a conflict presents the clearest possible case for review by this Court. Sup. Ct. R. 19(1)(b).

The Circuits' decisions also confirm that the jurisdictional issue will be a recurring and time-consuming problem for the lower federal courts. Compare Pet. 23. It is apparent that the FCC is not content to halt its usurpation of areas traditionally regulated by the states: the *California* case demonstrates that the FCC is already moving rapidly to displace existing state jurisdiction in other areas such as intrastate services.[6] Only plenary review by this Court will avoid protracted controversy over the limits imposed on FCC jurisdiction by Sections 2(b)(1) and 221(b).

Furthermore, such review must come now to be fully effective. As the lower court implicitly acknowledged by staying its mandate (Pet. App. 1j-12j), the registration program will involve immediate expenditures and

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Elgin, J. & E. Ry. v. *Gibson*, 355 U.S. 897 (1957) (separate opinion of Frankfurter, J.); *accord, e.g., United States* v. *Carver*, 260 U.S. 482, 490 (1923). Furthermore, as petitioners have shown (Pet. 15-16), the registration program presents a very different and much stronger case for review of the jurisdictional issue than did the abstract declaration of FCC primacy at issue in *North Carolina I*: the registration program is the first occasion on which this Court has been presented with the jurisdictional issue in the context of specific FCC regulatory action whose full implication for long-standing state jurisdiction may now be clearly perceived.

[6] As the petitioners have pointed out (Pet. 24 n.39), the FCC has also begun proceedings which threaten to encroach on state authority over intrastate rates. As a result, intervenors are simply wrong when they imply (ARINC Br. 13 n.32) that the states' long-standing jurisdiction over such rates will remain unimpaired even if the FCC's present jurisdictional claim is allowed to stand.

will be largely irreversible once fully implemented.[7] This, therefore, is the time when the jurisdictional issue should be considered and definitively resolved once and for all.

3. Intervenors assert that the decision below is wholly consistent with "the long-standing pattern of federal and state administrative practice" and the views previously expressed by both the FCC and state agencies regarding the scope of FCC jurisdiction over terminal equipment. ARINC Br. 10-11. Precisely the opposite is true.

Petitioners have clearly shown that it is the state agencies, not the FCC, that regulated virtually every aspect of terminal equipment, including connection of customer equipment, both before and after the enactment of the Communications Act. Pet. 5-9, 22-23. Even the court below acknowledged this fact. Pet. App. 23a. Thus, "the long-standing pattern of federal and state administrative practice" directly contradicts rather than supports the jurisdictional claim underlying the registration program.

Nor is it true—as intervenors claim (ARINC Br. 10)—that the Commission "has consistently rejected" the contention that Sections 2(b)(1) and 221(b) bar FCC regulation of terminal equipment used for intrastate and exchange service. As recently as 1973, the FCC Chairman, in clear recognition of the constraints imposed by Sections 2(b)(1) and 221(b), acknowl-

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[7] The registration program's full implementation will result in the expenditure of millions of dollars on carrier equipment in the first year alone and the attachment to the telephone network of millions of pieces of customer provided equipment. Pet. 24. Once made, the expenditures will be permanently lost and the alterations could never be undone.

edged that the Commission "lack[s] jurisdiction over telephone sets which are a primary part of the facilities used in providing telephone exchange service."[8] Intervenors do not even mention this concession concerning the limits of FCC jurisdiction over the very sort of equipment now sought to be regulated through the registration program.

Instead, intervenors rely essentially on a handful of FCC decisions which preceded the FCC Chairman's statement. None of the decisions involved any claim, much less exercise, of general regulatory authority by the FCC over the vast bulk of terminal equipment used for intrastate as well as interstate service. To the extent FCC jurisdiction over terminal equipment was even considered,[9] several of the decisions involved special situations in which a peculiar interstate nexus existed, as the FCC emphasized at the time by distinguishing the particular equipment involved from ordinary terminal equipment;[10] and, in the remainder, the

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[8] Letter from FCC Chairman, 119 Cong. Rec. 30962 (1973). The determinative influence of Sections 2(b)(1) and 221(b) on the Chairman's observation is apparent from his further explanation that "the Communications Act specifically *excludes* the Federal Communications Commision from any authority with respect to charges, classifications, practices, services, *facilities* or regulations for or in connection with intrastate and exchange telephone service of *any* telephone company." (Emphasis added.)

[9] The decision in *Southwestern Bell Tel. Co.*, 6 F.C.C. 529 (1938), upon which intervenors rely (ARINC Br. 10), involved no question of FCC regulation of terminal equipment; it was concerned with the entirely different matter of transmission facilities found to constitute "part of an interstate line" within the meaning of Section 214(a) of the Communications Act and thus subject to FCC regulation.

[10] See, *e.g.*, *United States Dep't of Defense* v. *General Tel. Co.*, 38 F.C.C.2d 803 (1973), *review denied*, FCC 73-854 (1973), *aff'd*

FCC almost routinely took care to restrict any claim of authority to the equipment's use for "interstate" or "foreign" communication.[11] The general and direct interference with state authority which is patent here was simply never presented in the decisions and thus they are completely consonant with the FCC Chairman's concession.

Finally, it is fanciful to suggest that the state agencies have long recognized FCC primacy over the terminal equipment sought to be regulated under the registration program (ARINC Br. 11). Since the states have for decades generally regulated the provision of terminal equipment, FCC primacy was not even an issue. And it is only through a fine editorial hand that intervenors are able to make the extraordinary and inaccurate suggestion that the California Public Utility

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per curiam sub nom. St. Joseph Tel. & Tel. Co. v. *FCC*, 505 F.2d 476 (D.C. Cir. 1974) (interstate defense facilities which were "different in essential respects" from ordinary telephone sets); *AT&T—TWX*, 38 F.C.C. 1127 (1965) (teletypewriter equipment which was "predominantly interstate in its use" and was not excluded from FCC jurisdiction by Section 221(b) since it did not pertain to "telephone exchange service").

[11] See, *e.g.*, *The Fallon Travelodge*, 14 F.C.C.2d 972, 974 (1968) (FCC jurisdiction held to exist over complaint for damages due to delay in providing certain specialized telephone equipment, but only "to the extent that [the equipment] was provided for use in interstate message telephone service."); *accord*, *e.g.*, *Use of Recording Devices*, 11 F.C.C. 1033, 1047, 1054 (1947); *AT&T—Railroad Interconnection*, 32 F.C.C. 337, 339 (1962). The *Carterfone* decision itself was carefully limited by the Commission to the use of the relevant device "in connection with interstate and foreign ... telephone service," 13 F.C.C.2d at 422; and, contrary to what intervenors imply (ARINC Br. 10), *Carterfone* quite clearly did not establish any general right on the part of customers to connect their own equipment to the network for use in intrastate and exchange as well as interstate service. See pp. 17-18, below.

Commission has "recently . . . acknowledged the need for . . . deference" to FCC jurisdiction over terminal equipment (ARINC BR. 11).[12]

Moreover, the FCC's recent assertion of such authority has been vigorously contested by the states: the National Association of Regulatory Commissioners[13] sought certiorari in *North Carolina I*; the Southeastern Association of Regulatory Commissioners[14] has petitioned for certiorari in both *North Carolina I* and the present case; the regulatory authorities of North Carolina, Ohio, New Mexico and Nebraska either petitioned for certiorari or supported the petitions as amicus curiae in *North Carolina I*; and the regulatory authorities of the first two states have already done the same in the present case. This persistent state opposition to the FCC's belated claim of jurisdiction over terminal equipment confirms the exceptional importance of the jurisdictional issue and the need for plenary review by this Court. *Cf. New York* v. *United States,* 326 U.S. 572, 574 (1946); *Alaska* v. *Arctic Maid,* 366 U.S. 199, 202 (1961).

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[12] The language from the California PUC's decision, quoted by intervenors (ARINC Br. 11), was a description of "[t]he effect" (Slip Op. at 6) of the Fourth Circuit decision now sought to be reviewed and not an endorsement of either the decision or FCC primacy. Indeed, California has only recently argued against FCC preemption in the *California* case (see p. 5, above).

[13] NARUC is a quasi-governmental body representing the public utility authorities in all 50 states. Its status is expressly recognized in the Interstate Commerce Act and the Communications Act, 49 U.S.C. § 305(f); 47 U.S.C. § 410(c).

[14] SEARUC is an association of regulatory commissioners of Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Virginia.

II. The FCC Lacks Power to Require Prior Approval of Carrier Equipment and the FCC's Action Is Not Consistent With This Court's RCA Decision.

1. Intervenors do not deny that the registration orders would require carriers for the first time to obtain FCC approval *before* attaching their *own* equipment to their *own* network. Nor do intervenors dispute that the FCC's action represents a novel assertion of power with significant practical consequences for the carriers. In fact, carrier registration will cost the Bell System alone millions of dollars in just the *first year*. Pet. 27.

In opposing review, intervenors attempt to create the impression that petitioners rely merely on the absence of an express grant of such power. ARINC Br. 13-14. Petitioners' argument is, however, very different—namely, that both the legislative plan and the legislative history clearly evidence a congressional intent *not* to confer on the FCC any power to require prior approval of carrier terminal equipment.

Petitioners have shown that Congress carefully articulated in Section 214, 47 U.S.C. § 214, the circumstances in which the FCC would have prior approval power over the facilities of a common carrier subject to regulation under Title II of the Communications Act. Pet. 25. Such prior approval power with respect to terminal equipment is not granted by Section 214 or by another section. Petitioners have also shown that Congress, in considering the Communications Act, considered but ultimately rejected the concept of an FCC prior approval power that would in some instances have embraced carrier terminal equipment. Pet. 26. Considered together, Section 214 and the legislative history negate any claim that Congress granted the FCC the general prior approval power now claimed.

Curiously, intervenors do not even discuss the implications of Section 214 and the legislative history. They offer instead general statements regarding the " 'expansive power' " of the FCC. ARINC Br. 14 (citation omitted). But the bulk of the authority cited for this expansive power are decisions dealing solely with the FCC's power to regulate broadcasting and CATV under Title III of the Act.[15] However, with rare and irrelevant exceptions, terminal equipment does not come within the FCC's Title III powers because it does not transmit radio signals (see Section 301, 47 U.S.C. § 301). As for Title II, it is a precisely articulated statutory plan for carrier regulation [16] which, as the petition showed, does not include the type of authority the FCC now seeks to exercise.[17]

Ultimately, the carrier registration requirement rests on nothing more than "a Commission determination" that it wishes, for the first time since the enactment of the Communications Act some 40 years ago, to exercise "primary responsibility" for the terms and

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[15] ARINC Br. 14, *citing United States* v. *Midwest Video Corp.*, 406 U.S. 649 (1972); *United States* v. *Southwestern Cable Co.*, 392 U.S. 157 (1968); *National Broadcasting Co.* v. *United States*, 319 U.S. 190 (1943); *Mt. Mansfield Television, Inc.* v. *FCC*, 442 F.2d 470 (2d Cir. 1971).

[16] See *AT&T* v. *FCC*, 487 F.2d 864, 875-76 (2d Cir. 1973). See also *California* v. *FCC*, No. 75-2060 (D.C. Cir., filed June 20, 1977) (Robinson, J., dissenting op. at 5 n.23).

[17] In stressing the FCC's supposedly "expansive powers," the intervenors are able to cite only a single decision dealing with the regulation of common carriers under Title II. ARINC Br. 14 n.34. Even that decision, *GTE Service Corp.* v. *FCC*, 474 F.2d 724 (2d Cir. 1973), involved no question of FCC authority over carrier terminal equipment; it was concerned only with rules designed to regulate the provision of data processing services by common carriers.

conditions on which carrier equipment is attached to the carriers' own network. ARINC Br. 15.[18] However, the FCC, like any administrative agency, is "entirely a creature of Congress and the determinative question is not what [the agency] thinks it should do but what Congress has said it can do." *CAB* v. *Delta Air Lines, Inc.*, 367 U.S. 316, 322 (1961). Certiorari is necessary to ensure that the FCC is restricted to "what Congress has said it can do."

2. Apart from contesting the FCC's claimed power to require prior carrier registration, the petition demonstrated that the basis on which the alleged power was exercised in this case directly conflicts with *FCC* v. *RCA Communications, Inc.*, 346 U.S. 86 (1953), and *Hawaiian Telephone Co.* v. *FCC*, 498 F.2d 771 (D.C. Cir. 1974). The Commission's purpose was simply to equalize competition for its own sake; it made no findings to support the view that such an exercise in handicapping would serve the public interest.

Intervenors do not deny that the FCC, in requiring registration of carrier equipment, was seeking to handicap carriers in order to achieve a supposed competitive balance between carriers and non-carriers as equipment suppliers.[19] In fact, they expressly acknowledge that the carrier registration requirement is based on a Commission determination that carriers should not

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[18] Section 205 of the Act (47 U.S.C. § 205), which the intervenors also cite (ARINC Br. 15 n.38), does not suggest otherwise. That Section does not even refer to carrier facilities or equipment; nor does it purport to give the Commission any sort of prior approval power over terminal equipment.

[19] Carrier registration in fact will not equalize the competitive position of carriers with non-carriers (who already enjoy major advantages) but will only increase the delay and red tape for all registrations. Pet. 29 n.48.

"enjoy" a "competitive advantage" over non-carrier equipment suppliers. ARINC Br. 17.[20] Intervenors further admit that *RCA* and *Hawaiian Telephone* established that the FCC "'is not free to create competition for competition's sake.'" ARINC Br. 18. Rather, the public interest must be the FCC's guiding standard, and where the Commission acts for the sake of competition, it must determine that such action would advance the public interest. *FCC* v. *RCA Communications, Inc., supra,* 346 U.S. at 96-97.

What intervenors do claim is that the FCC made the necessary public interest determination in requiring carrier registration to eliminate any "competitive advantage." However, to support this assertion, intervenors cite only a single paragraph of the FCC's *Second Report and Order* dealing solely with the FCC's determination that the public interest would be served by liberalizing the terms on which *customers* could supply and connect their own equipment to the telephone network. Pet. App. 9c, *cited in* ARINC Br. 19 n.50. The paragraph does not even mention, much less examine, the separate issue raised here whether the public interest would benefit by handicapping carriers simply to adjust or influence the competitive position of carriers and non-carriers in the market; nor is this public interest addressed anywhere else in the Commission's registration orders.[21]

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[20] The intervenors' words are essentially those of the FCC which specifically indicated it was requiring carrier registration to deny carriers "any competitive advantage." Pet. App. 15b-16b.

[21] In fact, even assuming that the competitive position of manufacturers was enhanced by delaying new telephone company equipment, it is impossible to see how the public would be served by delaying its access to new equipment or imposing on it the multi-

Thus, despite what intervenors say, once again the Commission clearly "has been thinking about competition . . . with the objective of equalizing competition among *competitors*" (*Hawaiian Telephone Co.* v. *FCC*, *supra*, 498 F.2d at 775 (emphasis in original)), without regard to the public interest as both *RCA* and *Hawaiian Telephone* require. What is more, the FCC's other stated reasons for requiring carrier registration do not eliminate the need for review. Intervenors have brought forward nothing to dispel the conclusion that the FCC's other reasons were mere makeweights (Pet. 30 & n.44)." In any case, it is impossible to conclude that the Commission's impermissible fixation on competition, without regard to the public interest, has "not . . . infected [its] entire decision" to require carrier registration. *Dietrich* v. *Tarleton*, 473 F.2d 177, 179 (D.C. Cir. 1972).

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million dollar costs of carrier registration. Yet, these are the effects that carrier registration will have. Pet. 27-28 & 29 n.48.

" Disregarding the FCC's admission that the carriers have both the "desire and ability" to protect their network against harm from their own equipment (Pet. App. 15b), intervenors suggest that carrier equipment " 'possesses the same *potential* for harm' " as does customer equipment because the carriers purchase much of their equipment from independent manufacturers that market the same equipment to the general public. ARINC Br. 16 & n.40 (emphasis in original). By virtue of their "desire and ability," however, the carriers, unlike individual purchasers, have both the expertise and experience to acquire only equipment which is compatible with their systems and properly manufactured; and the carriers install and maintain their equipment with the same expertise and experience, while customers may not.

III. The FCC Has Clearly Failed to Consider the Economic Impact on the Public and the Court Below Plainly Violated Chenery by Substituting Its Own Economic Analysis.

1. In seeking certiorari, petitioners showed that, in considering the registration program, the FCC had before it substantial evidence indicating that its program will increase telephone rates paid by the public by a half *billion* dollars or more *annually* within the next ten years.[11] This evidence included not only detailed economic studies by carriers but a full investigative report by NARUC itself. Pet. 32. Neverthless, the FCC expressly refused (see p. 19, below) to consider the economic impact of its registration program on the public in clear violation of its obligation to consider all factors "pertinent" to the public interest. *Permian Basin Area Rate Cases,* 390 U.S. 747, 792 (1968).

Initially, intervenors seek to excuse the FCC's action by suggesting that the full implications of customer substitution of terminal equipment were examined and resolved by the Commission in its *Carterfone* decision.[12] ARINC Br. 20. But that decision was concerned only with a device for connecting private mobile radio systems to the telephone system. 13 F.C.C.2d at 420-21. The FCC itself has emphasized that *Carterfone* did "*not* hold that a customer may *substitute* his own equipment or facilities . . . for that furnished by the telephone company . . . ."[13] And the FCC specifically

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[11] NARUC, *Report After Investigation* 19 (1974), *cited in* Pet. 10.

[12] *Carterfone,* 13 F.C.C.2d 420, *recon. denied,* 14 F.C.C.2d 571 (1968).

[13] *AT&T "Foreign Attachment" Tariff Revisions,* 15 F.C.C.2d 605, 609-10 (1968), *recon. denied,* 18 F.C.C.2d 871 (1969) (emphasis added).

stated in *Carterfone* that it had "no occasion to address" any issue of economic impact as a result of the interconnection of customer equipment. 14 F.C.C.2d at 573.

In the registration docket, the FCC initially recognized the narrow limits of its action in *Carterfone*. Thus, in a supplemental notice released in April 1973, the FCC stated that the economic issues raised by the proposal for unrestricted customer substitution would be "cover[ed] . . . by further supplemental notices in the near future."[**] 40 F.C.C.2d 315, 318 (1973). The Commission never issued these supplemental notices, but its statement makes clear that even the FCC itself did not believe—as intervenors now suggest (ARINC Br. 23)—that it was merely "act[ing] in furtherance of an existing policy" in the registration docket. As a result, the issue is not whether the Commission in promulgating the registration orders was required to "revisit and reinspect" the foundations of an existing policy (ARINC Br. 23), but rather whether the Commission in promulgating those orders *ever* laid a prior adequate foundation for its entirely new policy of unrestrained customer substitution.

2. Apparently recognizing that their reliance on *Carterfone* is untenable, the intervenors also claim that the Commission did lay an adequate foundation by "fully consider[ing]" in its registration orders "the

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[**] The FCC Chairman's 1972 letter to the state commissioners (Pet. 32) also effectively acknowledged that the economic issues posed by customer substitution had not yet been addressed by the Commission and would have to be considered in the registration docket. That letter indicated that "an in-depth study" of the "economic impact of liberalized connection" was a question "integral to a fair resolution" of the registration docket.

potential economic effects of the program" on the carriers and the public. ARINC Br. 20-23. However, the registration orders themselves directly contradict this claim. The FCC's orders expressly indicate that they are not concerned with "[e]conomic issues" but are addressed "only" and "solely" to the "technical" considerations raised by the interconnection of customer equipment. Pet. App. 14b, 7c. In view of the registration orders' plain language, the intervenors' assertion that the FCC has fulfilled its obligation to consider all "pertinent" factors is baseless;[27] exclusion of the fundamental economic issues posed by the registration program has clearly occurred.[28]

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[27] Contrary to what intervenors say (ARINC Br. 24), Section 4(j) of the Communications Act (47 U.S.C. § 154(j)) did not authorize the Commission's action. Section 4(j) empowers the FCC to resolve "subordinate questions of procedure" such as questions of intervention and the order in which applications are to be heard. *FCC* v. *Pottsville Broadcasting Co.*, 309 U.S. 134, 138 (1940). The Section does not empower the Commission to alter principles of substantive law or to disregard its obligation to consider all factors "pertinent" to the public interest. *Cf. L. B. Wilson, Inc.* v. *FCC*, 170 F.2d 793, 802-03 (D.C. Cir. 1948). Similarly, intervenors' reliance (ARINC Br. 24 n.67) on *Nader* v. *FCC*, 520 F.2d 182 (D.C. Cir. 1975), and *Associated Press* v. *FCC*, 448 F.2d 1095 (D.C. Cir. 1971), is completely misplaced since both those decisions were concerned simply with the implementation of interim rate increases which were subject to accounting and refund orders pending investigation. By contrast, the registration program is irreversible (Pet. 24) and certainly the large immediate losses sustained by the public can never be recouped.

[28] Although intervenors clearly wish the situation were otherwise (ARINC Br. 22-23), petitioners have shown that, for both procedural and evidentiary reasons, the FCC's hurried initial report in Docket No. 20003 cannot cure the FCC's refusal to address the economic issues in its registration docket (Pet. 35-36). Even the majority opinion below disclaimed any reliance on the report in Docket No. 20003. Pet. App. 10a n.6.

3. Unlike the intervenors, the court below plainly recognized that the FCC had not examined the extremely serious economic issues posed by the registration program. In addition, the court acknowledged that it "would be remiss . . . if [it] permitted" the program to be implemented "without even considering [its] potential economic impact." Pet. App. 33a. Accordingly, the majority resorted to its "own analysis of the potential [economic] impact of the registration program" Pet. App. 34a-35a, 30a-32a.

Petitioners have shown that the majority's action directly conflicts with *SEC* v. *Chenery Corp.*, 318 U.S. 80, 93-94 (1943), where this Court established the basic principle that administrative "action must be measured by what the [agency] did, not by what it might have done." While the FCC clearly was required to consider the economic impact of the registration program, its orders plainly indicated it did not. The court below was, therefore, "powerless to affirm the administrative action." *SEC* v. *Chenry Corp.*, 332 U.S. 194, 196 (1947).

Unable to explain away the lower court's blatant violation of the *Chenery* doctrine, the intervenors attempt to gloss over the court's error in a brief footnote. ARINC Br. 19 n.52. However, apart from naked assertions, the intervenors' footnote points to nothing indicating that the majority below in fact upheld the FCC's program on a "basis articulated in the order[s]" of the Commission as it was required to do.[20] On the contrary, even a brief review of the portions of

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[20] *Burlington Truck Lines* v. *United States*, 371 U.S. 156, 169 (1962).

the decision below cited by the intervenors [30] suffices to make clear that the lower court, in direct violation of *Chenery*, supplied its "own analysis" for economic findings the FCC was obligated to make.

Certiorari is required to assure that agencies confront and resolve the public interest issues attending proposed action and to maintain the proper and established limits of judicial review. In fact, as petitioners have shown (Pet. 34-37), the lower court's violation of the *Chenery* doctrine is so unmistakable and represents so extreme a departure "from the accepted and usual course of judicial proceedings" [31] that summary reversal is warranted to correct the lower court's action even if the other issues raised by the petition are not to be reviewed.

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[30] The intervenors refer the Court to "552 F.2d at 1053-54, 1056" which appears at Pet. App. 29a-32a, 34a-35a. An examination of those pages shows that they consist of the court's own analysis; the pages clearly do not reveal any economic impact findings made by the Commission in this case, findings which the Commission itself said it would not make (see pp. 18-19, above).

[31] Sup. Ct. R. 19(1)(b).

CONCLUSION

For the reasons stated above and in the petition, certiorari should be granted or, alternatively, the decision below should be summarily reversed on the third issue presented in the petition.

Respectfully submitted,

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